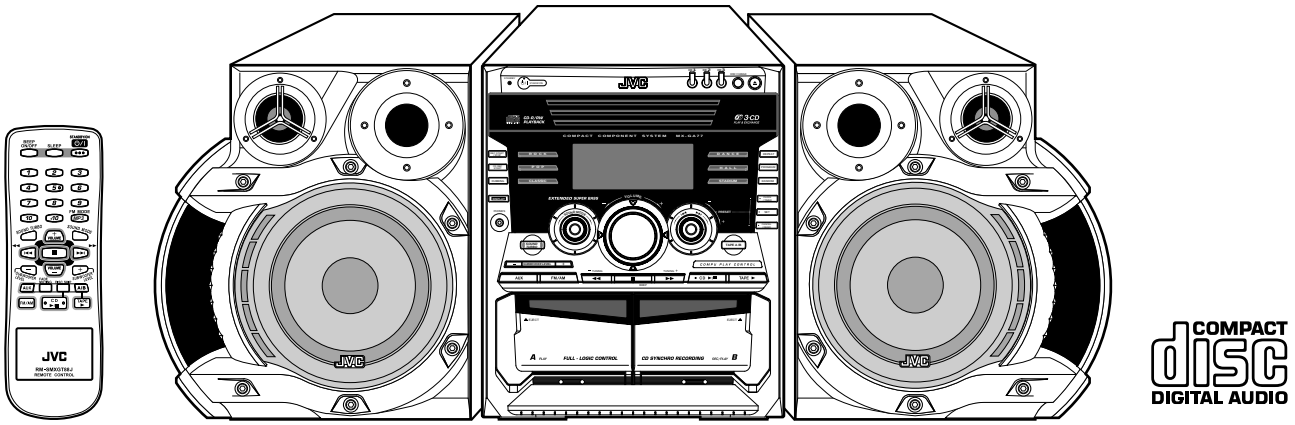
JVC

SERVICE MANUAL

COMPACT COMPONENT SYSTEM

MX-GA77

Area suffix
J ---------- U.S.A.
C ---------- Canada



SP-MXGA77 CA-MXGA77 SP-MXGA77

COMPACT disc DIGITAL AUDIO

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No.22001
May. 2003

Safety Precautions

1. This design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.

2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer`s warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.

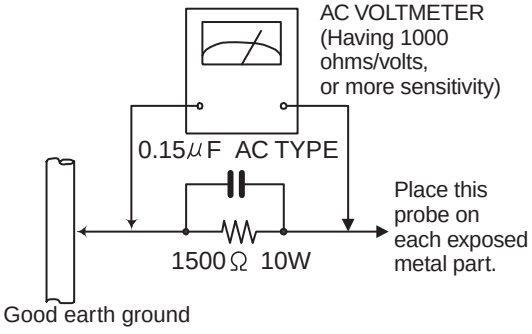
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (⚠) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.

4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.

5. Leakage currnet check (Electrical shock hazard testing)
   After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.
   Do not use a line isolation transformer during this check.

   ● Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.).

   ● Alternate check method
   Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500Ω 10W resistor paralleled by a 0.15μF AC-type capacitor between an exposed metal part and a known good earth ground.
   Measure the AC voltage across the resistor with the AC voltmeter.
   Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and meausre the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Voltage measured any must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).



Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

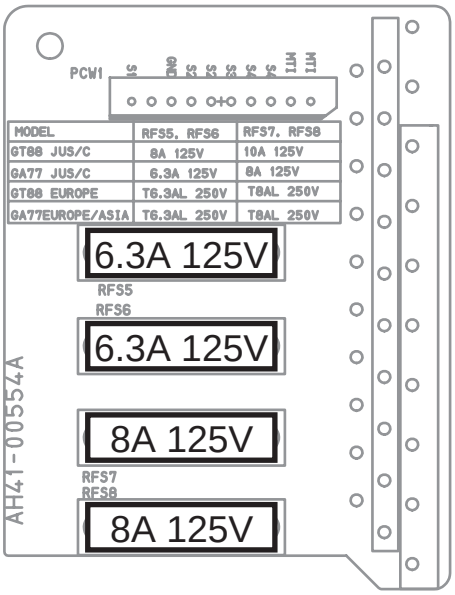
⚠ CAUTION

Burrs formed during molding may be left over on some parts of the chassis. Therefore, pay attention to such burrs in the case of preforming repair of this system.

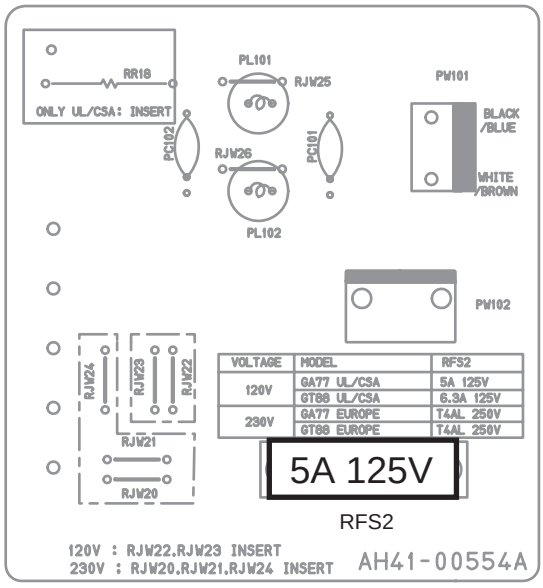
In regard with component parts appearing on the silk-screen printed side (parts side) of the PWB diagrams, the parts that are printed over with black such as the resistor (▬), diode (▬) and ICP (●) or identified by the "⚠" mark nearby are critical for safety.

(This regulation does not correspond to J and C version.)

Importance administering point on the safety

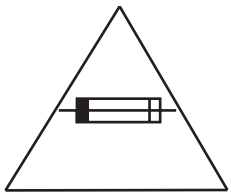


Fuse board (Forward side)



Power supply board (Forward side)

For USA and Canada / pour É tats - Unis d' Amérique et Canada



Caution: For continued protection against risk of fire, replace only with same type 5A/125V for RFS2, 6.3A/125V for RFS5 and RFS6, 8A/125V for RFS7 and RFS8.
This symbol specifies type of fast operating fuse.

Précaution: Pour eviter risques de feux, remplacez le fusible de sureté de et RFS2 comme le meme type que 5A/125V, et 6.3A/125V pour RFS5 et RFS6, et 8A/125V pour RFS7 et RFS8.
Ce sont des fusibles sûretes qui functionnes rapide.

Preventing static electricity

1. Grounding to prevent damage by static electricity

Electrostatic discharge (ESD), which occurs when static electricity stored in the body, fabric, etc. is discharged, can destroy the laser diode in the traverse unit (optical pickup). Take care to prevent this when performing repairs.

2. About the earth processing for the destruction prevention by static electricity

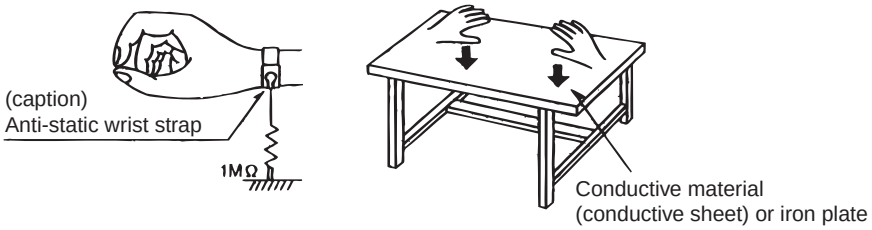
In the equipment which uses optical pick-up (laser diode), optical pick-up is destroyed by the static electricity of the work environment.
Be careful to use proper grounding in the area where repairs are being performed.

2-1 Ground the workbench

Ground the workbench by laying conductive material (such as a conductive sheet) or an iron plate over it before placing the traverse unit (optical pickup) on it.

2-2 Ground yourself

Use an anti-static wrist strap to release any static electricity built up in your body.



3. Handling the optical pickup

1. In order to maintain quality during transport and before installation, both sides of the laser diode on the replacement optical pickup are shorted. After replacement, return the shorted parts to their original condition. (Refer to the text.)

2. Do not use a tester to check the condition of the laser diode in the optical pickup. The tester's internal power source can easily destroy the laser diode.

4. Handling the traverse unit (optical pickup)

1. Do not subject the traverse unit (optical pickup) to strong shocks, as it is a sensitive, complex unit.

2. Cut off the shorted part of the flexible cable using nippers, etc. after replacing the optical pickup. For specific details, refer to the replacement procedure in the text. Remove the anti-static pin when replacing the traverse unit. Be careful not to take too long a time when attaching it to the connector.

3. Handle the flexible cable carefully as it may break when subjected to strong force.

4. It is not possible to adjust the semi-fixed resistor that adjusts the laser power. Do not turn it

Attention when CD mechanism assembly is decomposed

***Please refer to "Disassembly method" in the text for pick-up and how to detach the CD mechanism assembly.**

1. Remove the CD changer unit.
2. Remove the CD changer mechanism.
3. Solder is put up before the card wire is removed from the pickup unit connector on the CD mechanism assembly.
   (When the card wire is removed without putting up solder, the CD pick-up assembly might destroy.)
4. Please remove solder after connecting the card wire with the pickup unit connector when you install picking up in the substrate.

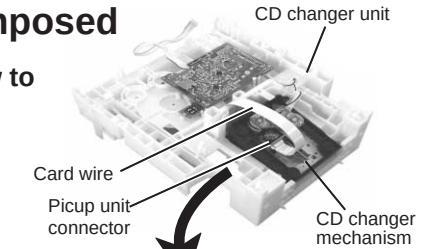


Fig.1

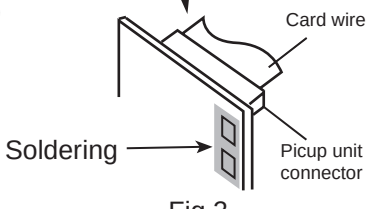


Fig.2

Disassembly method

■Removing the metal cover (See Fig.1)

1. Remove the three screws **A** attaching the metal cover on the back of the body.
2. Remove the six screws **B** attaching the metal cover on both sides of the body.
3. Remove the metal cover from the body by lifting the rear part of the cover.

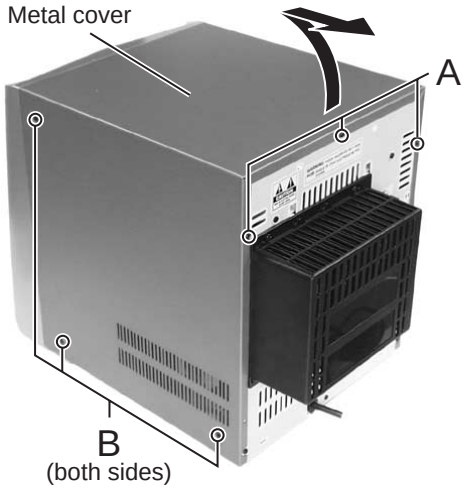


Fig.1

ONE POINT

■How to eject the CD tray manually (see fig.2)

Turn the loading pulley gear at the bottom of the CD changer unit as shown in Fig.2 and draw the CD tray toward the front.

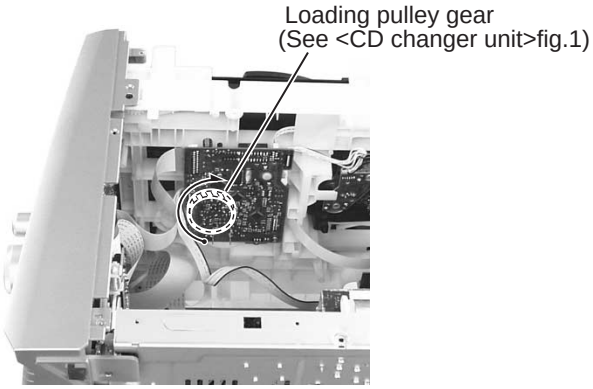


Fig.2

■Removing the CD tray fitting (See Fig. 3)

・ Prior to performing the following procedure, eject the CD tray.

1. After drawing the lower part of the tray fitting toward the front, remove the five claws. Then, while moving the tray fitting upward, remove it.

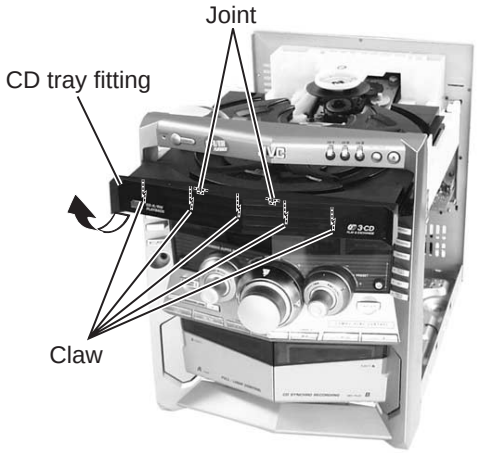


Fig.3

■Removing the CD changer unit (See Fig.4 to 7)

・ Prior to performing the following procedure, remove the metal cover and CD tray fitting.

1. Remove the card wire attached to CD changer unit on the adhesion tape.
2. Disconnect the card wire from the connector CW105 on the CD board.
3. Disconnect the harness from the connector CW104 on the main board.
4. Remove the two screws **C** attaching the CD changer unit to the rear panel.
5. Remove the two screws **D** attaching the CD changer unit to both sides of the front panel assembly.
6. Draw the CD changer unit upward from behind while pulling the rear panel outward.

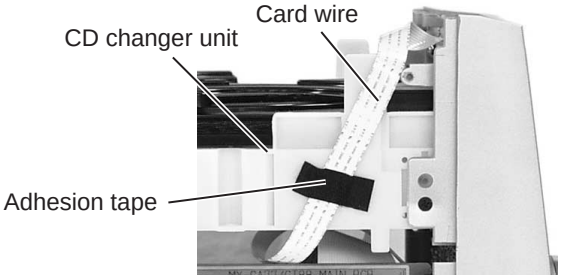


Fig.4

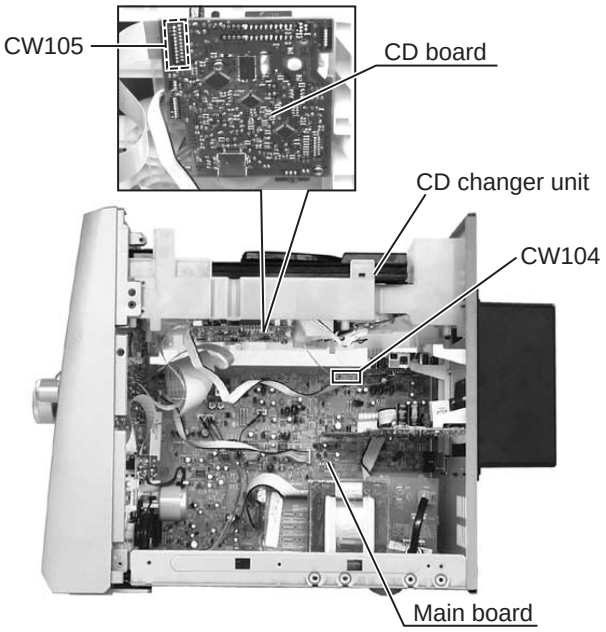


Fig.5

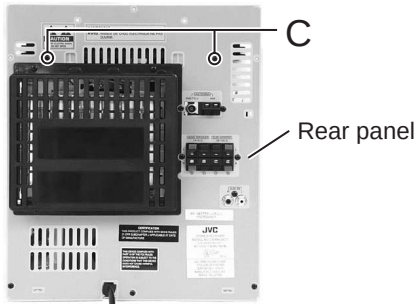


Fig.6

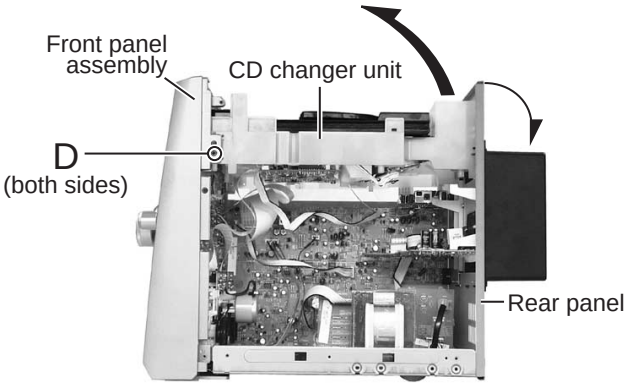


Fig.7

■Removing the front panel assembly (See Fig.8 to 10)

- Prior to performing the following procedure, remove the metal cover and CD changer unit.

1. Disconnect the card wire from the connector CW101 on the main board.
2. Disconnect the harness from the connector CW108, CW109 and CW110 on the main board.
3. Remove the screw **E** fixiing the lug wire.
4. Remove the two screws **F** attaching the front panel assembly to both sides of the body.
5. Remove the screw **G** attaching the main board to the front panel assembly.
6. Remove the screw **H** attaching the front panel assembly to bottom of the body.
7. Release the two joints1 and two joints2, and detach the front panel assembly toward the front.

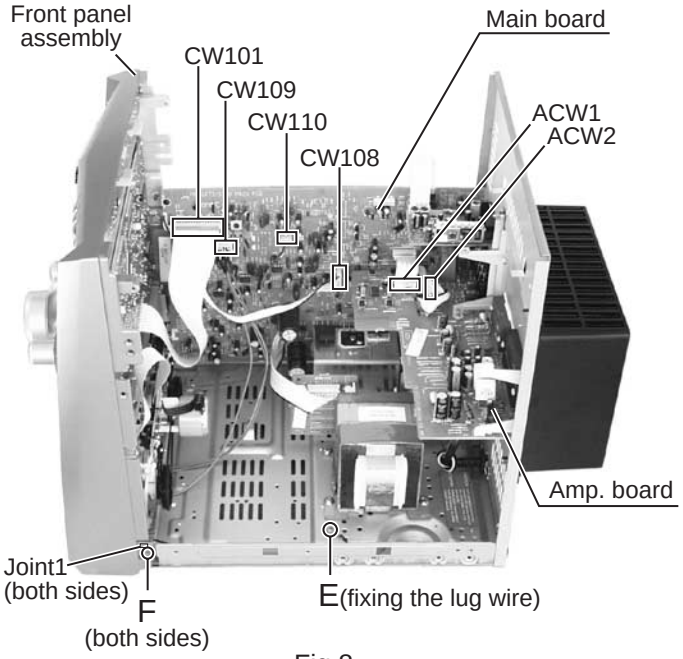


Fig.8

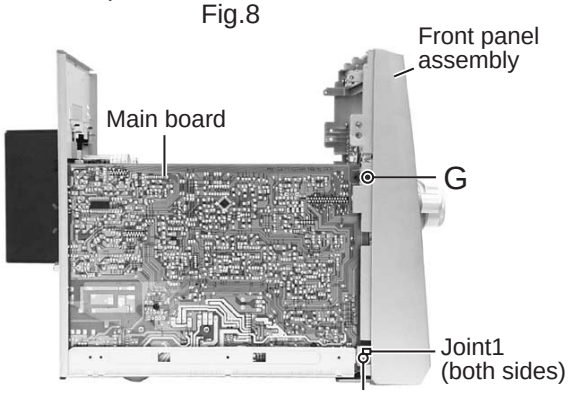


Fig.9

■Removing the heat sink & amp. board (See Fig.8, 11 and 12)

・Prior to performing the following procedure, remove the metal cover and CD changer unit.

1. Disconnect the card wire from the connector ACW1 and the harness from the connector ACW2 on the amp. board.

2. Remove the four screws **I** attaching the heat sink cover to the rear panel. Remove the heat sink cover.

3. Remove the four screws **J** attaching the heat sink and two screws **K** attaching the speaker terminal to the rear panel.

4. After moving the heat sink upward, remove the claws. Then pull out the heat sink & amp. board inward.

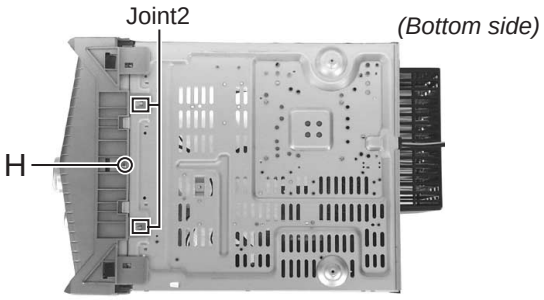


Fig.10

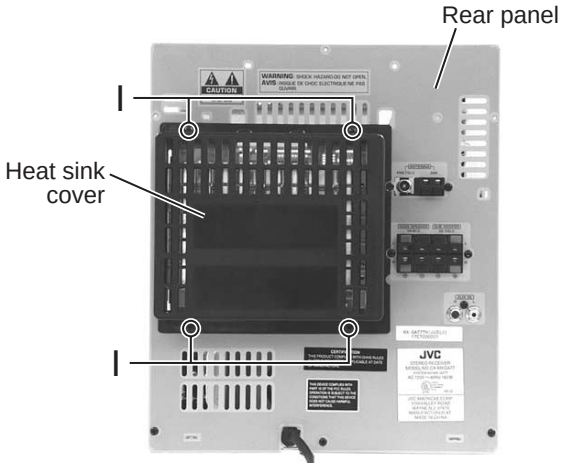


Fig.11

■Removing the tuner board (See Fig.12 and 13)

・Prior to performing the following procedure, remove the metal cover.

1. Disconnect the card wire from the connector CON01 on the tuner board.

2. Remove the two screws **L** attaching the tuner board to the rear panel.

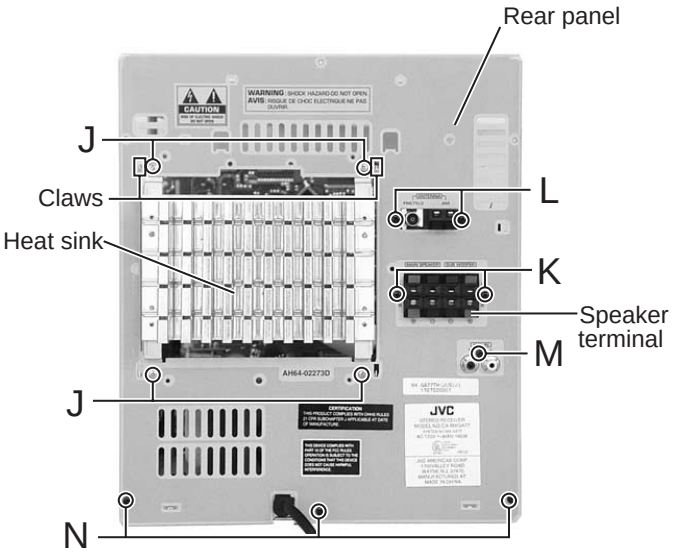


Fig.12

■Removing the rear panel (See Fig.12)

・Prior to performing the following procedure, remove the metal cover, CD changer unit, heat sink & amp. board and tuner board.

1. Remove the screw **M** and three screws **N** attaching the rear panel.

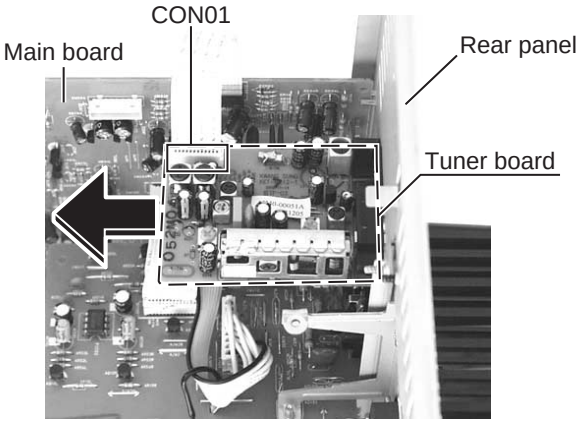


Fig.13

■Removing the main board (See Fig. 14)

・Prior to performing the following procedure, remove the metal cover, CD changer unit and rear panel.

1. Disconnect the card wire from the connector CW101 and the harness from the connector CW108, CW109 and CW110 on the main board.
2. Disconnect the harness from the connector PCW1 on the fuse board.
3. Remove the screw **G** attaching the main board to the front panel assembly. (See Fig.9)
4. Remove the two screws **O** attaching the heat sink to the bottom chassis.

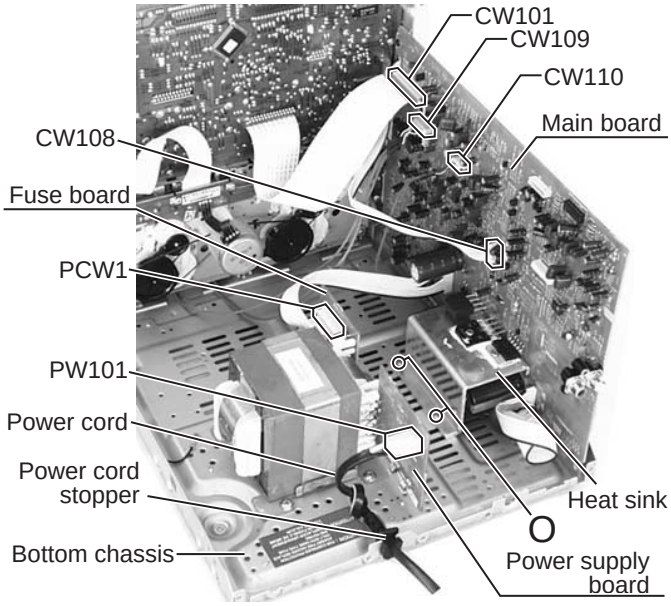


Fig.14

■Removing the power cord (See Fig. 14)

・Prior to performing the following procedure, remove the metal cover, CD changer unit and rear panel.

1. Disconnect the power cord from the connector PW101 on the power supply board and pull up the power cord stopper upward.

■Removing the power ICs (See Fig.15 and 16)

・Prior to performing the following procedure, remove the metal cover, CD changer unit and heat sink & amp. board.

1. Unsolder the power ICs solder points.
2. Remove the four screws **P** attaching the power ICs to the heat sink.

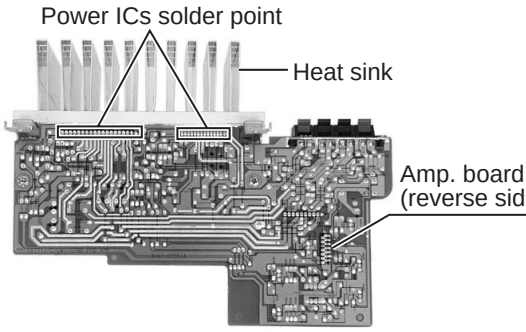


Fig.15

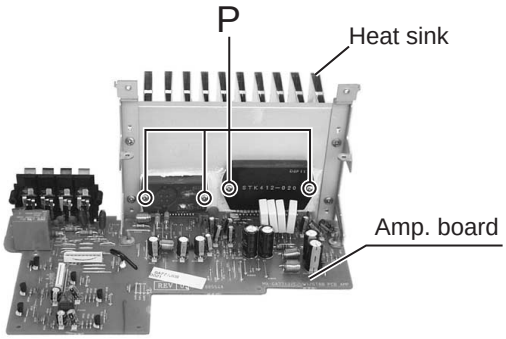


Fig.16

■Removing the power transformer (See Fig .17)

・Prior to performing the following procedure, remove the metal cover, CD changer unit and heat sink & amp. board.

1. Disconnect the power cord from the connector PW101 on the power supply board.
2. Disconnect the harness from the connector PCW1 on the fuse board.
3. Remove the four screws **Q** attaching the power transformer on the bottom chassis.

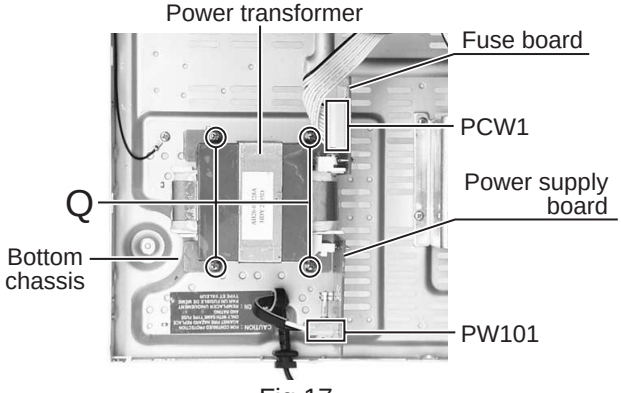


Fig.17

<Front panel assembly>

・Prior to performing the following procedure, remove the front panel assembly.

■ Removing the CD switch board (See Fig.1)

1. Disconnect the card wire from the connector UCW03 on the CD switch board.
2. Remove the four screws **A** attaching the CD switch board.

■ Removing the front board (See Fig.1 and 2)

1. Pull out the sound mode knob, volume knob, and preset knob from the front side of front panel assembly.
2. Disconnect the card wire from the connector UCW02 on the front board and the connector on the mecha. board.
3. Remove the fourteen screws **B** attaching the front board.
4. Disconnect the card wire from the connector UCW01 on the front board.

Front panel assembly (inner side)

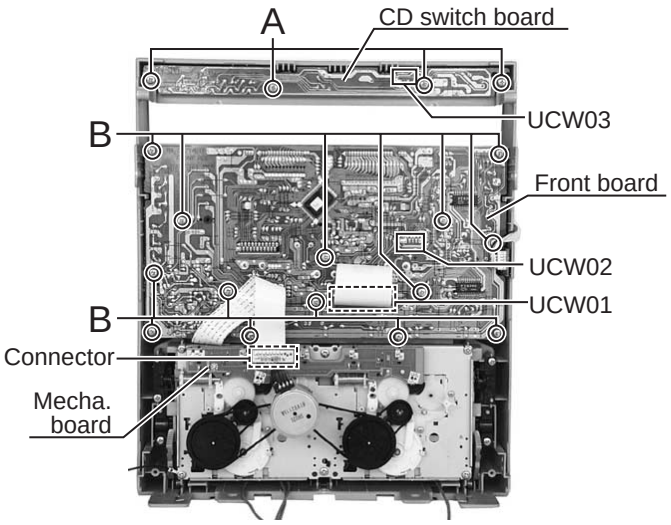


Fig.1

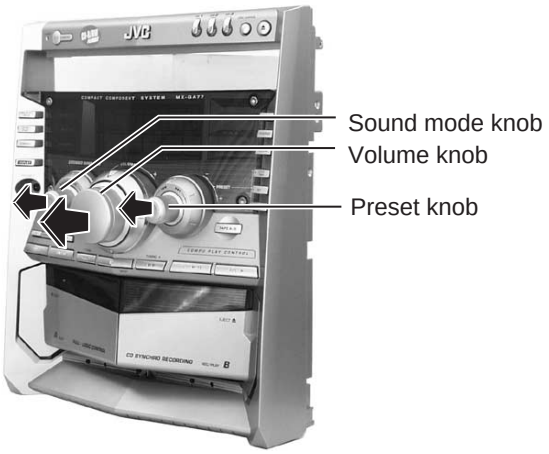


Fig.2

■ Removing the headphone jack board (See Fig.3)

・Prior to performing the following procedure remove the front board.

1. You can pull out the headphone jack board.

Front panel assembly (inner side)

■ Removing the cassette mechanism assembly (See Fig.3)

1. Disconnect the card wire from the connector on the mecha. board.
2. Remove the six screws **C** attaching the cassette mechanism assembly.

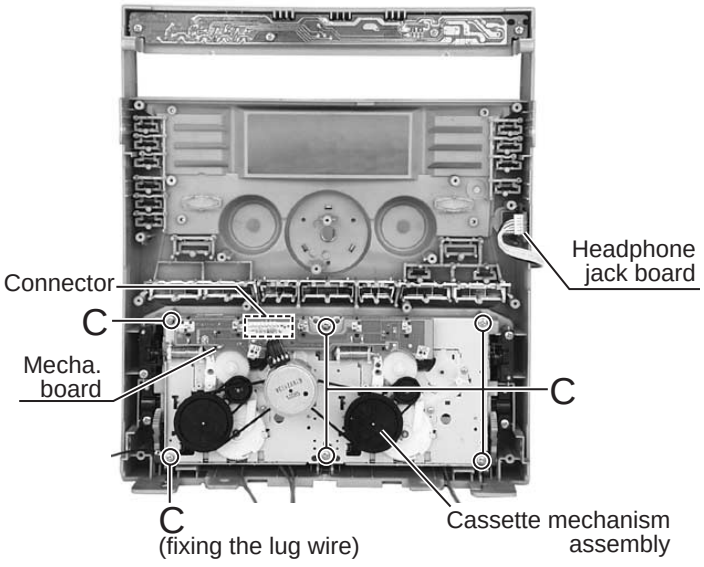


Fig.3

<CD changer unit>

・ Prior to performing the following procedure, remove the CD changer unit.

■Removing the CD tray (See Fig.1 and 2)

1. Turn the black loading pulley gear on the under side of the CD changer unit in the direction of the arrow and draw the CD tray toward the front until it stops.

2. Disconnect the card wire from connector CW103 on the CD board.

3. Push down the two tray stoppers marked **a** and pull out the CD tray.

CD changer uint (reverse side)

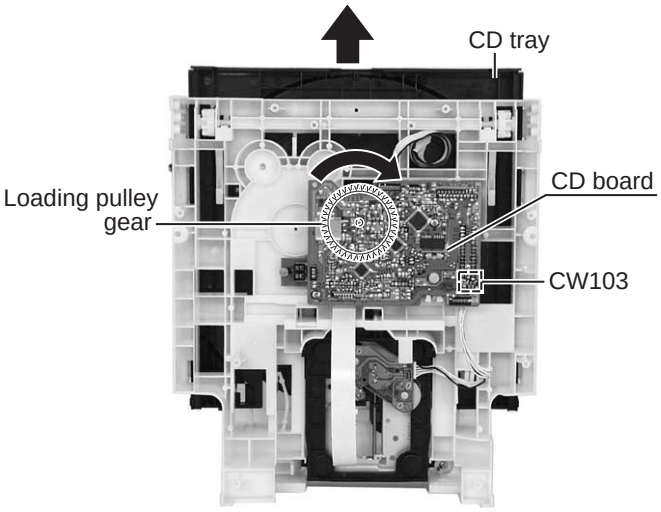


Fig.1

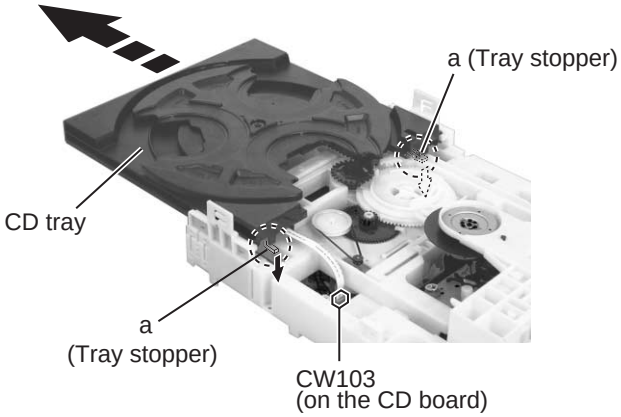


Fig.2

■Reinstall the CD tray (See Fig.3 and 4)

1. Align the gear-cam with the gear-tray as shown fig.3, then mount the CD tray.

2. When assembling the CD tray, take extreme care not engage with gear - synchro.

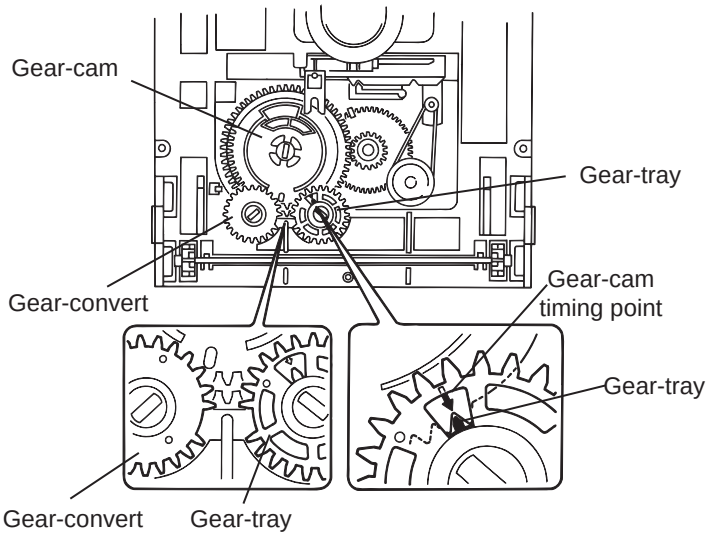


Fig.3

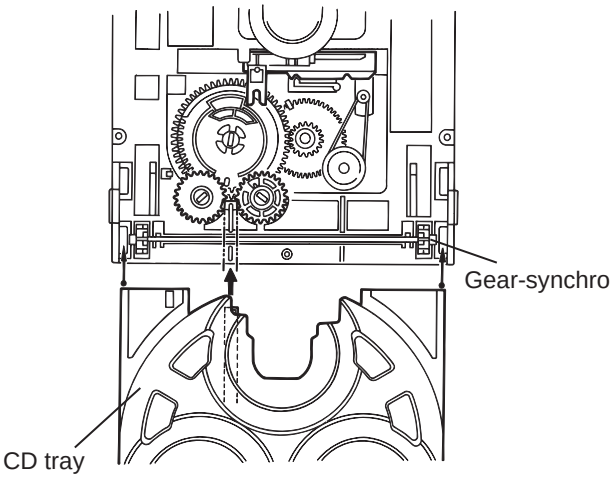


Fig.4

■Removing the sensor board (See Fig.5)

・Prior to performing the following procedure, remove the CD tray.

1. Remove the screw **A** attaching the sensor board on the CD tray.
2. Remove the sensor board releasing the two tabs **a**.
3. Disconnect the harness from the connector CW1 on the sensor board.

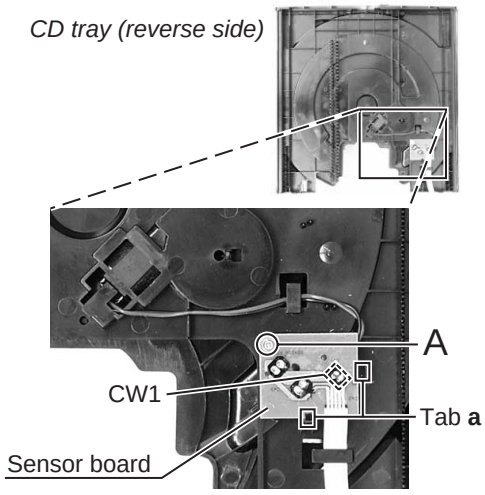


Fig.5

■Removing the turn tray motor (See Fig.6 and 7)

・Prior to performing the following procedure, remove the CD tray and sensor board.

1. Remove the screw **B** attaching the turn tray. Detach the turn tray from the base tray.
2. Pull outward the tab **b** attaching the turn tray motor on the base tray and detach the turn tray motor.

Introductory notes:
Base tray + Turn tray = CD tray

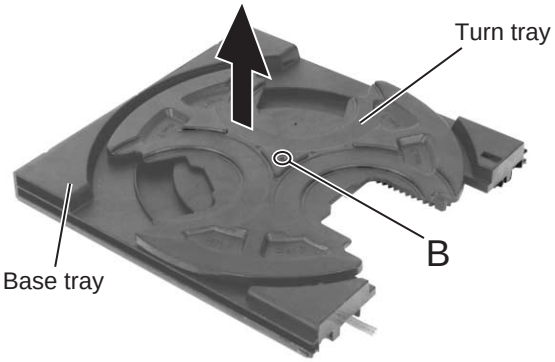


Fig.6

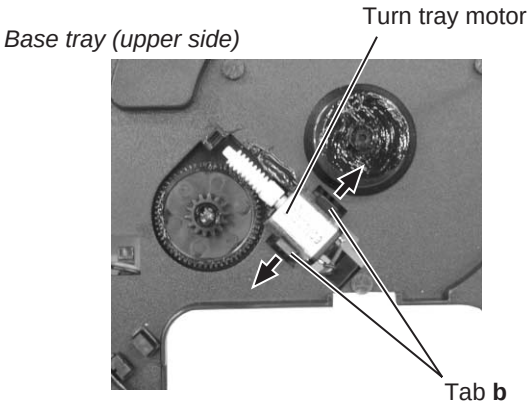


Fig.7

■Removing the belt, the CD board and the switch board (See Fig.8 and 9)

・ Prior to performing the following procedure, remove the CD tray.

1. Detach the belt from the pulley on the upper side of the CD changer unit (Do not stain the belt with grease).

2. Disconnect the card wire from the pickup unit connector on the under side of the CD changer unit.

   Attention : Solder is put up before the card wire is removed from the pick-up unit connector on the CD mechanism assembly.
   (When the card wire is removed without putting up solder, the CD pick-up unit assembly might destroy.)

3. Disconnect the motor wire harness from connector on the CD board.

4. Remove the screw **C** attaching the switch board and release the two tabs **e** attaching the switch board outward and detach the switch board.

5. Remove the two screws **D** attaching the CD board. First release the two tabs **f** and two tabs **g** attaching the motor, then release the CD board.

※If the tabs **f** and **g** are hard to release, it is recommendable to unsolder the two soldered parts on the motor terminal of the CD board.

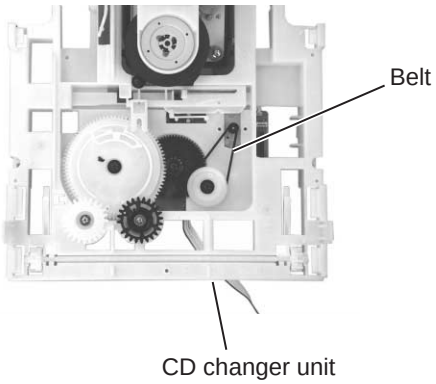


Fig.8

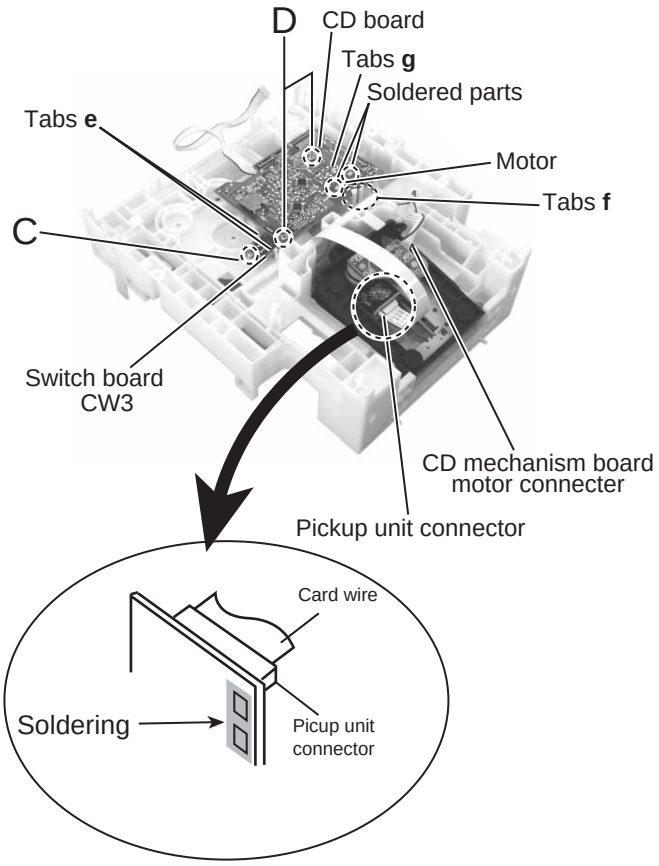


Fig.9

■ Removing the CD mechanism holder assembly (mechanism included)

(See Fig.10 to 13)

1. Disconnect the harness from connector on the CD mechanism board in the CD mechanism assembly on the under side of the CD changer unit. Disconnect the card wire from the pickup unit connector.

   Attention : Solder is put up before the card wire is removed from the pick-up unit connector on the CD mechanism assembly. (Refer to Fig.9)
   (When the card wire is removed without putting up solder, the CD pick-up unit assembly might destroy.)

2. Remove the screw **E** attaching the shaft on the right side of the CD mechanism holder assembly. Pull outward the stopper fixing the shaft on the left side and remove the CD mechanism holder assembly from behind in the direction of the arrow **y**.

3. Turn the CD mechanism holder assembly half around the lift up slide shaft **h** of the CD mechanism holder assembly until the turn table is reversed, and pull out the CD mechanism holder assembly.

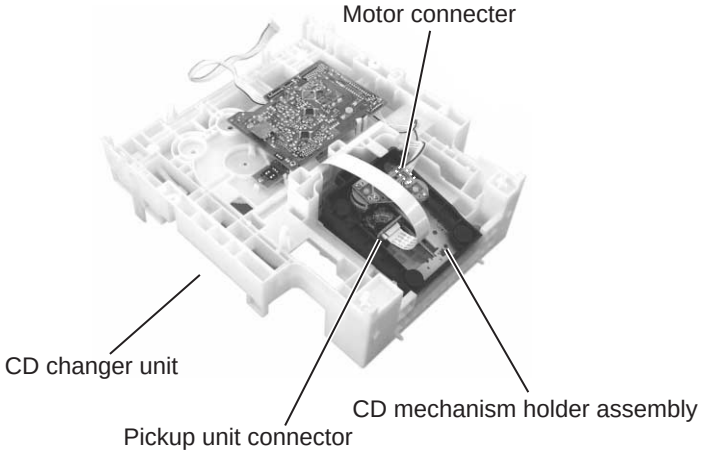


Fig.10

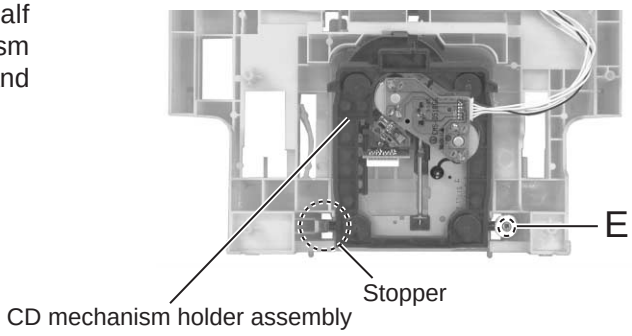


Fig.11

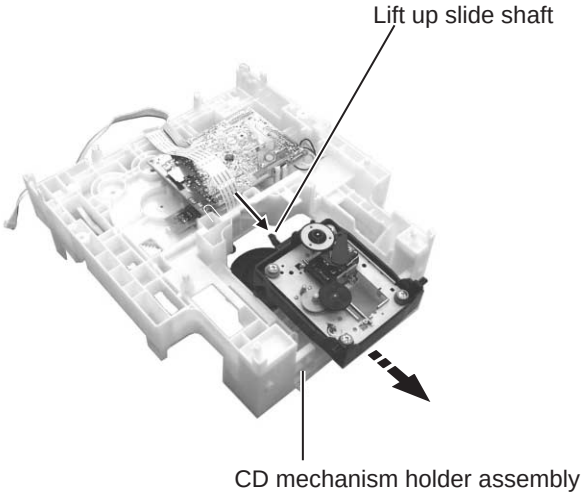


Fig.13

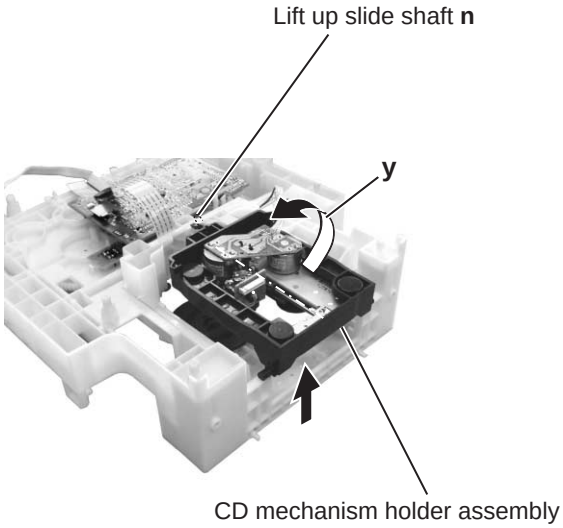


Fig.12

<CD mechanism section>

- Removing the CD mechanism holder from the CD chager unit.
  (Refer to "Removing the CD mechanism holder assembly")

■ Removing the pickup unit (See Fig.1)

1. Removing the cut washer on the feed gear sleeve and pull out the feed gear.
2. Remove the two screws **A** fixing the pickup shaft.
3. Removing the pickup unit.

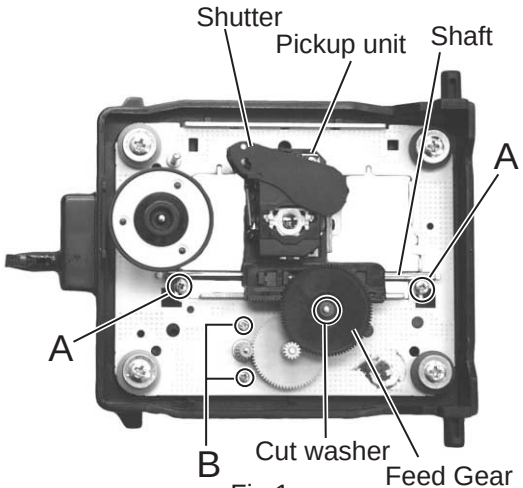


Fig.1

■ Removing the motor board (See Fig.2)

1. Unsolder the motor terminal on the motor board.
2. Remove the moter board.

■ Removing the feed motor (See Fig.1)

Remove the two motor fixing screws at **B** and removing the feed motor.

■ Removing the spindle motor

The spindle motor cannot be removed as a single unit.
When removing the spindle motor, change the chasis and turntable together as aunit.

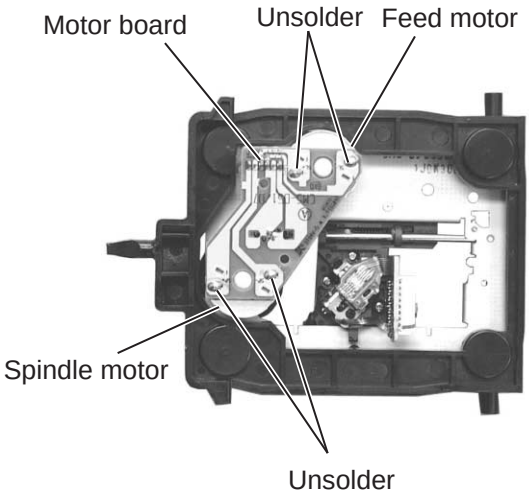


Fig.2

<Cassette mechanism section>

・ Prior to performing the following procedure, remove the cassette mechanism assembly.

■Removing the R/P head.

(See Fig.1 and 2)

1. Remove the screw **A** on the right side of the R/P head.
2. Remove the screw **B** on the left side of the R/P head.

■Remove the erase head. (See Fig.1)

1. Remove the screw **C** fixing the erase head.

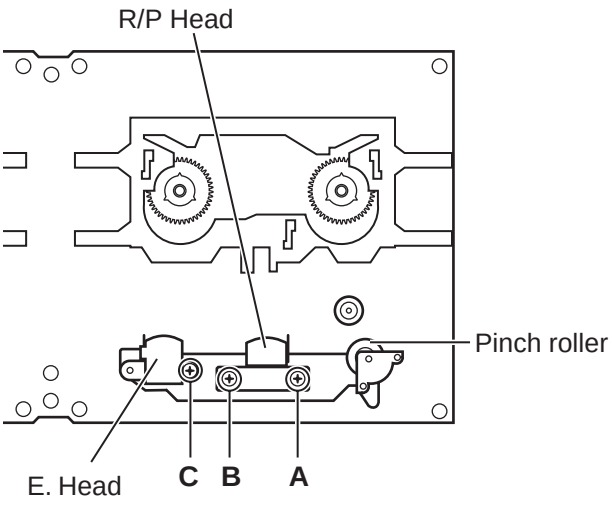


Fig.1

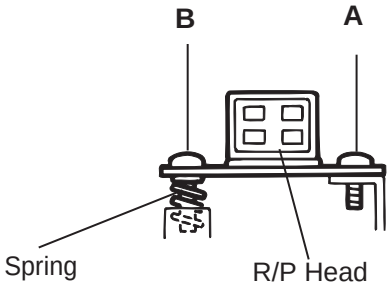


Fig.2

■Remove the pinch roller. (See Fig.3)

1. Pull out the pinch roller stopper.
2. Pull out the pinch roller.

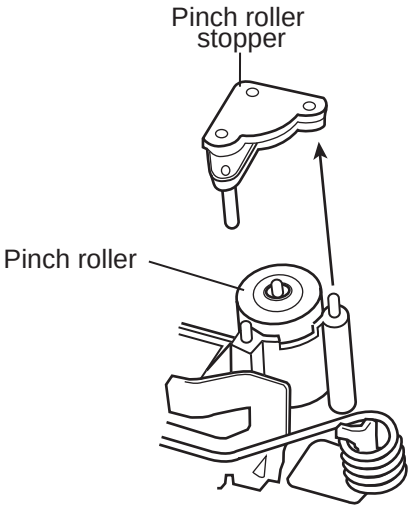


Fig.3

■Removing the motor (See Fig. 4 to 6)

1. Slide the plastic cover in the direction of the arrow, and remove the three claws. Then remove the plastic cover.

2. Remove the two screws **D** fixing the motor.
   Be careful to grease's splash when the drive belt comes off.

3. Unsolder the motor terminal.

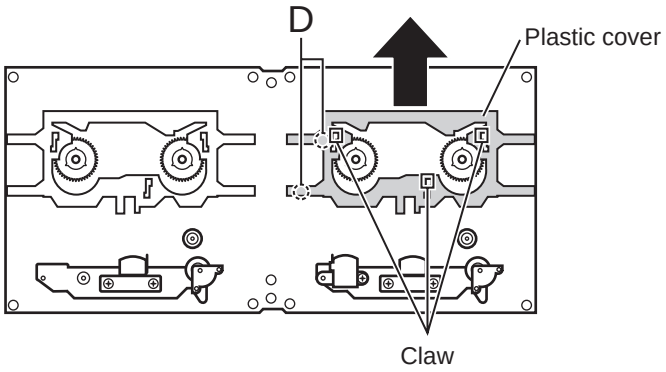


Fig.4

■Removing the mechanism board (See Fig. 5)

1. Unsolder the four solder parts **a** and the four solder parts **b.**

2. Remove the two screws **E** attaching the mecha. board.

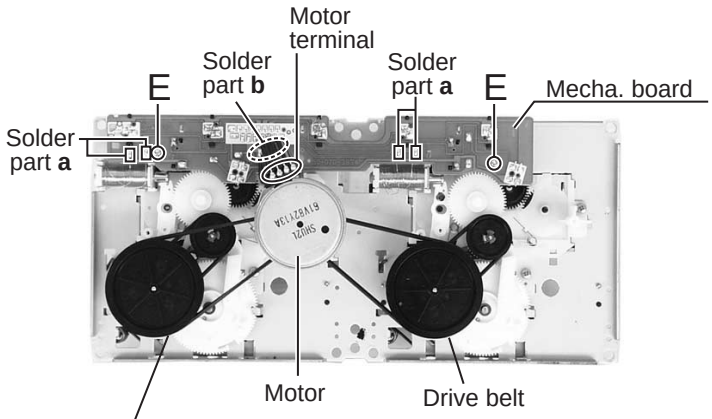


Fig.5

■Removing the flywheel (See Fig. 7 and 9)

1. Remove the cut-washer at **c** from the capstan shaft, then remove the flywheel.
   When reassembling the flywheel, be sure to use new washers as they cannot be reused.

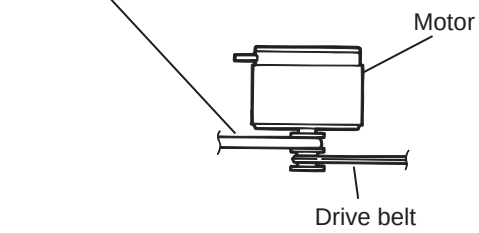


Fig.6

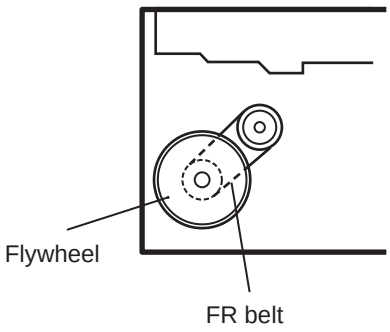


Fig.8

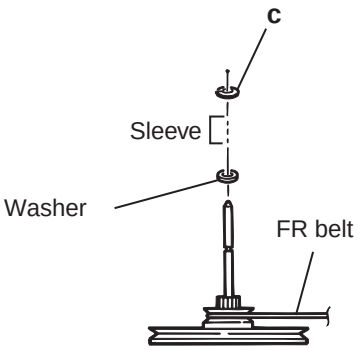


Fig.9

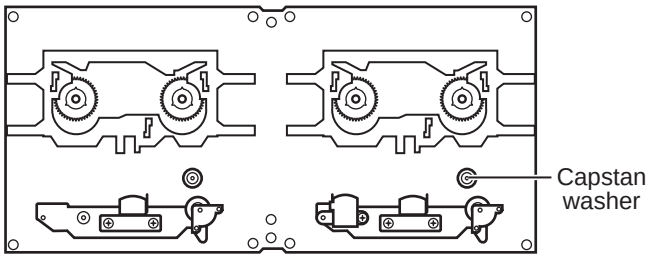


Fig.7

< Speaker section >

● It is exchange in a unit.
Please do not decompose as much as possible.

■ Removing the side panel (See Fig. 1)

1. Remove the five screws **A** attaching the side panel and remove the side panel.

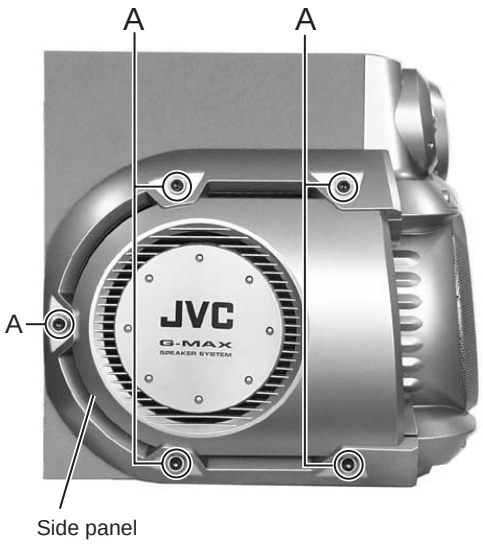


Fig.1

■ Removing the side speaker (See Fig. 2 and 3)

・Prior to performing the following procedure, remove the side panel.

1. Remove the four screws **B** attaching the side speaker.
2. Pull out the side speaker and remove the speaker cord from the speaker terminal.

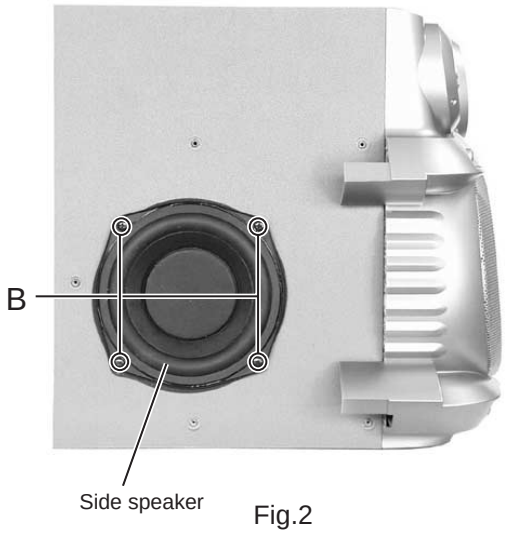


Fig.2

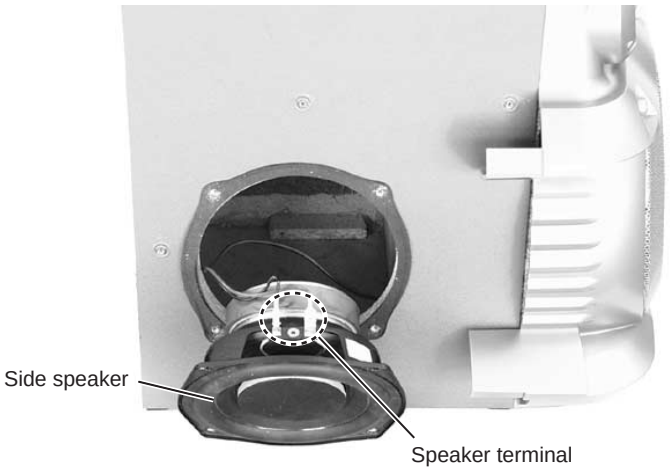
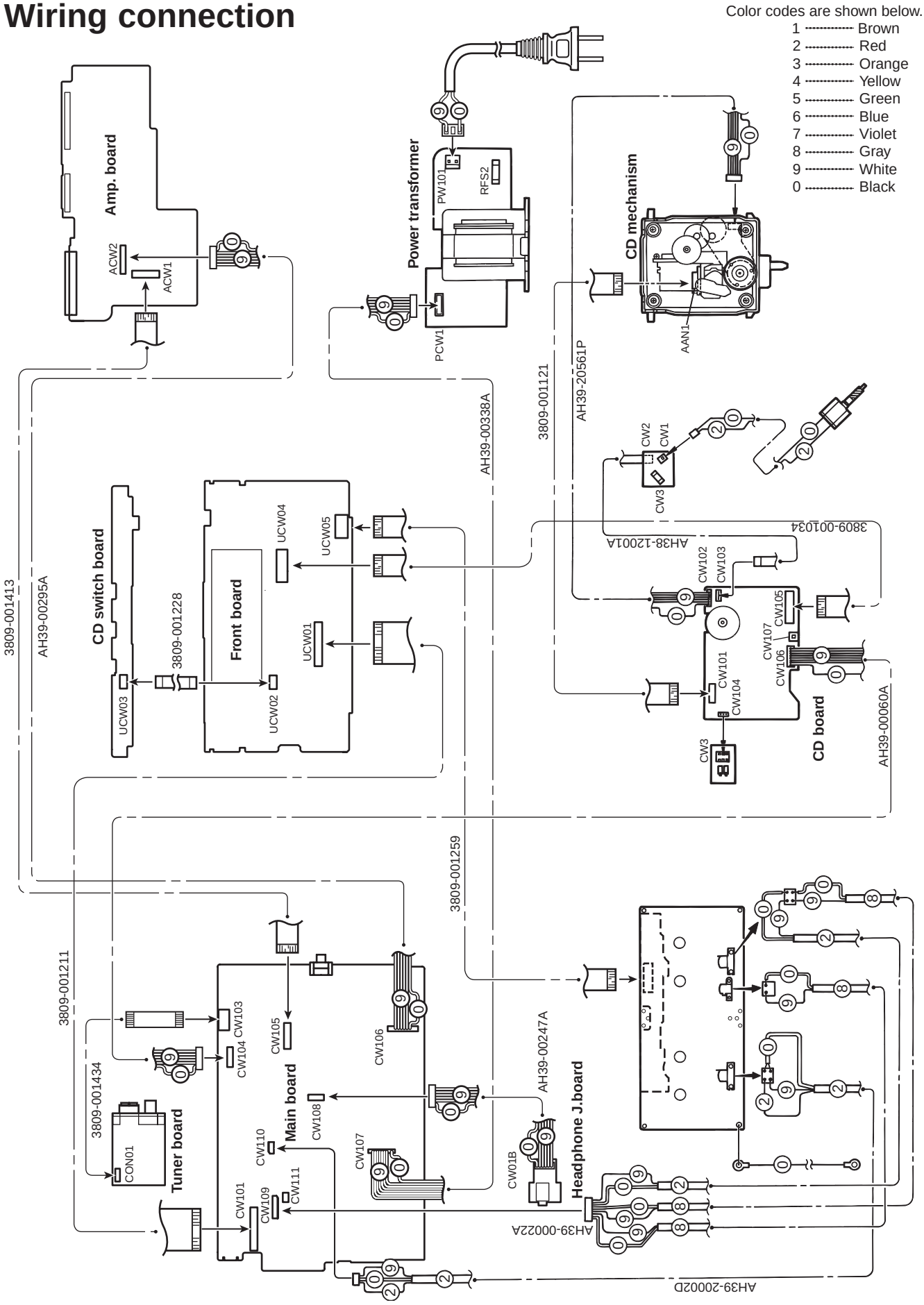


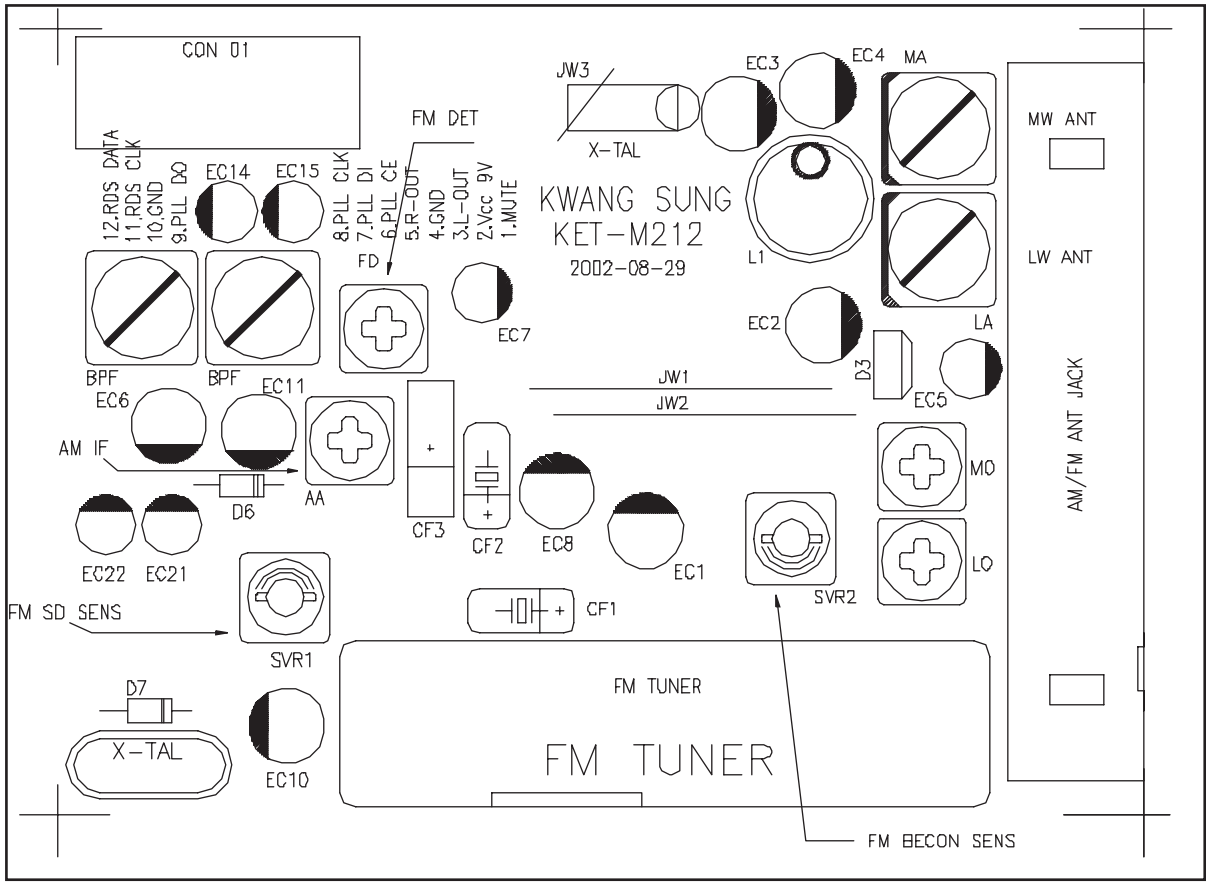
Fig.3

Wiring connection



Adjustment method

1. Tuner



* Adjustment Location of Tuner PCB

ITEAM	AM(MW) OSC Adjustment	AM(MW) RF Adjustment
Received FREQ.	530~1710 KHz	600 KHz
Adjustment point	MO	MA
Output	1~7.0 ±0.5V	Maximum Output(Fig.1)

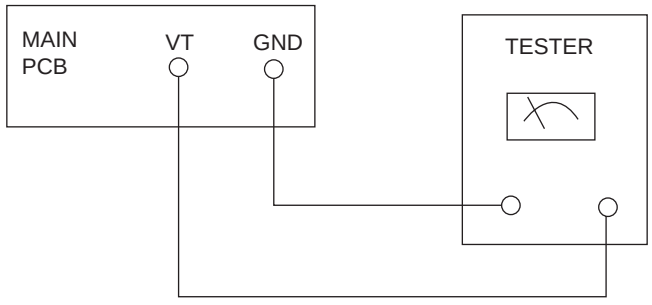


Fig.1 OSC Voltage

FM THD Adjustment	
SSG FREQ.	98 MHz
Adjustment point (FM DET)	FM DETECTOR COIL
Output	60 dB
Minumum Distortion (0.4% below) (Fig.2)	

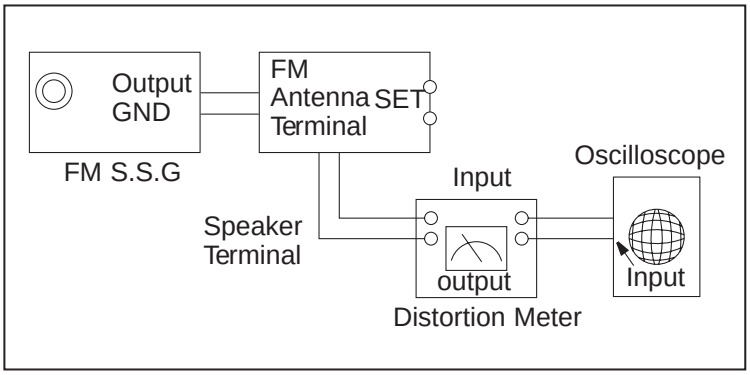


Fig.2 IF CENTER and THD Adjustment

FM Search Level Adjustment	
SSG FREQ.	98 MHz
Adjustment point (SVR1)	BEACON SENSITIVITY SEMI-VR(10KΩ)
Output	28 dB(± 2dB)
Adjust SVR1 (Fig.3)	

*Adjust FM S.S.G level to 28dB

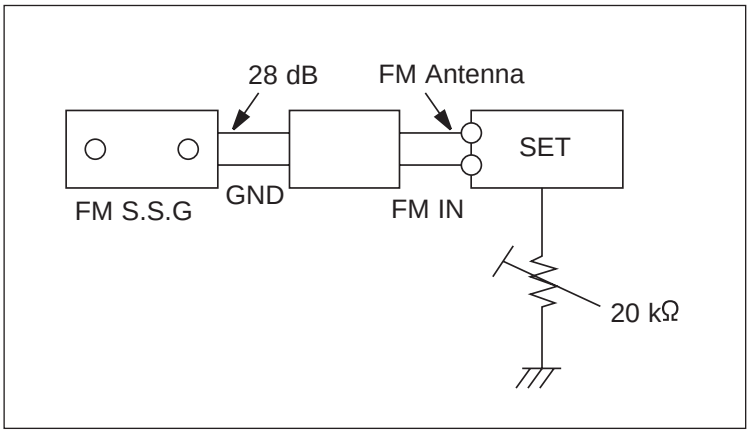


Fig.3 FM Auto Search Level Adjustment

AM(MW) I.F Adjustment	
SSG FREQ.	450 kHz
Frequency	522 kHz
Adjustment point	AM IF
Maximum output (Fig.4)	

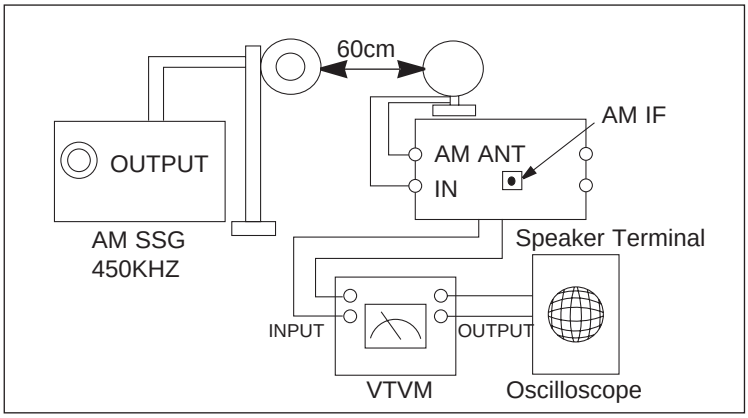


Fig.4 AM I.F Adjustment

2. Cassette Deck

■ To adjust tape speed

Notes

1) Measuring tape:
   i) VT-712/MTT-111(or equivalent)
   (Tapes recorded with 3kHz)
   ii) AC-225/MTT-5512(or equivalent)

2) Connect the cassette deck to the frequency counter as in fig.1.

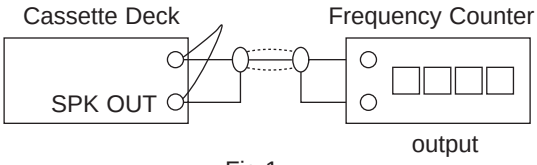


Fig.1

Step	Item	Pre-Setup Condition	Pre-Setup	To Adjust	Standard	Remark
1	NOR SPEED Control	SPK OUT (connected to the frequency counter)	1) Deck 1:VT-712 2) Press PLAY SW button 3) Deck 2:Same as above	Turn VSR1 to left and right (FRONT PCB)	3KHz	±1% range

■ To adjust plabyback level/REC

Notes

1) Before the actual adjustment, clean the play/recording head.

2) Measuring tape :
   i) VT-703/MTT-114N(or equivalent 10kHz AZIMUTH control)
   ii) AC-225/MTT-5512(or equivalent)

3) The cassette deck is connections as shown in fig.2.

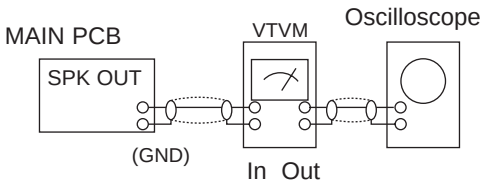


Fig.2

1. Adjust Deck 1 Play Level

Step	Item	Pre-Setup Condition	Pre-Setup	To Adjust	Standard	Remark
1	AZIMUTH	SPK OUT (VTVM is connected to the scope)	After putting VT-703 into Deck 1 - Press FWD PLAY button.	Turn the control screw to as shownin Fig.3.	Max output and same phase (both channels)	After adjustment secure it with REGION LOCK.

2. Adjust Deck 2 Play Level/REC BIAS

Step	Item	Pre-Setup Condition	Pre-Setup	To Adjust	Standard	Remark
1	AZIMUTH	SPK OUT (VTVM is connected to the scope)	After putting VT-703 into Deck 2 1)Press FWD PLAY button.	Turn the control screw to as shown in Fig.3.	Max output and same phase (both channels)	After adjustment secure it with REGION LOCK.
2	Recording Bias Voltage	Fig.4	After putting AC-225 into Deck 2 1)Press REC PLAY button. 2)TAPE PCB JCW3, connectted to VTVM	Turn JSR2L, JSR2R to the right and left	CHECK TO 7mV(±0.5mV)	

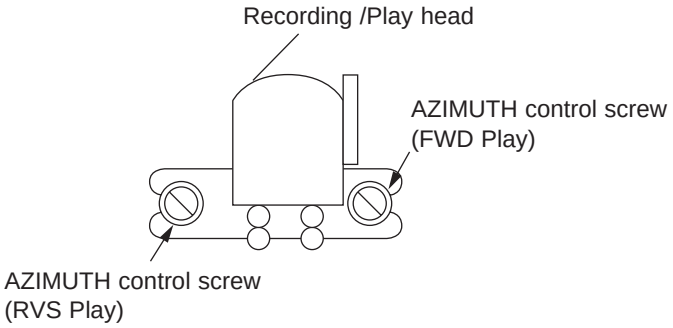


Fig.3

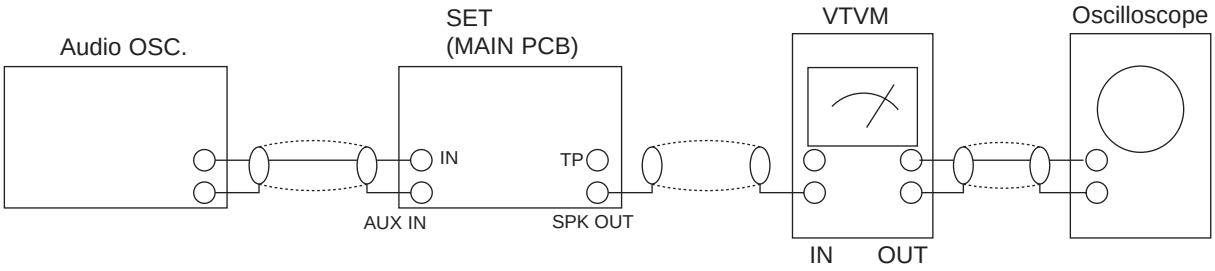
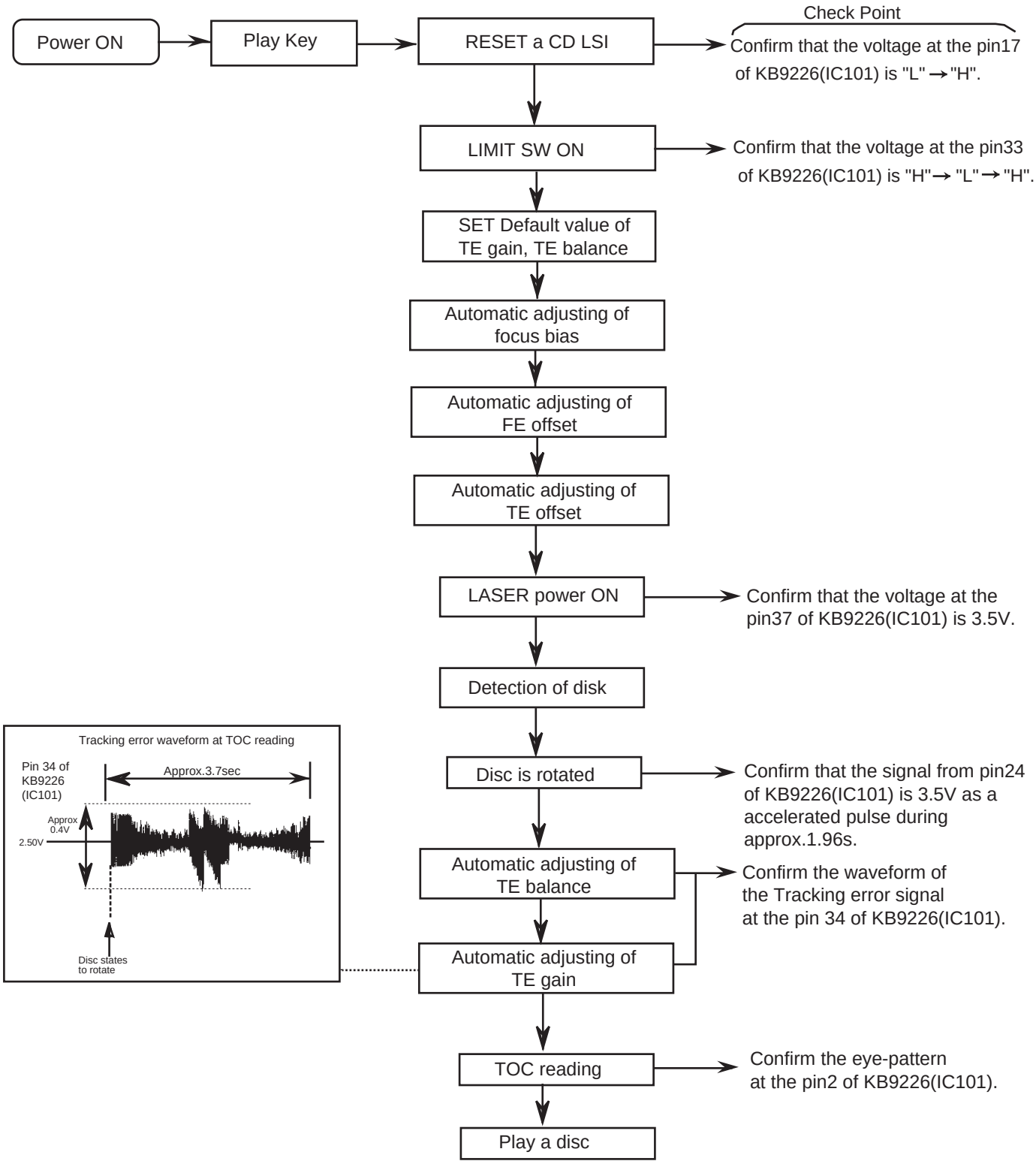


Fig.4

Flow of functional operation until TOC read


Power ON
Play Key
RESET a CD LSI
Check Point
Confirm that the voltage at the pin17 of KB9226(IC101) is "L" → "H".
LIMIT SW ON
Confirm that the voltage at the pin33 of KB9226(IC101) is "H" → "L" → "H".
SET Default value of TE gain, TE balance
Automatic adjusting of focus bias
Automatic adjusting of FE offset
Automatic adjusting of TE offset
LASER power ON
Confirm that the voltage at the pin37 of KB9226(IC101) is 3.5V.
Detection of disk
Tracking error waveform at TOC reading
Pin 34 of KB9226 (IC101)
Approx.3.7sec
Approx 0.4V
2.50V
Disc states to rotate
Disc is rotated
Confirm that the signal from pin24 of KB9226(IC101) is 3.5V as a accelerated pulse during approx.1.96s.
Automatic adjusting of TE balance
Confirm the waveform of the Tracking error signal at the pin 34 of KB9226(IC101).
Automatic adjusting of TE gain
TOC reading
Confirm the eye-pattern at the pin2 of KB9226(IC101).
Play a disc

Maintenance of laser pickup

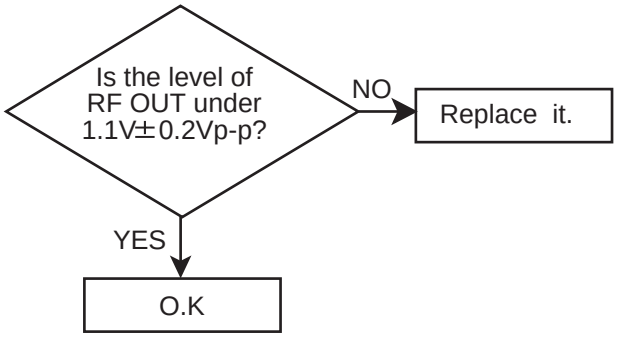
(1) Cleaning the pick up lens

Before you replace the pick up, please try to clean the lens with a alcohol soaked cotton swab.

(2) Life of the laser diode

When the life of the laser diode has expired, the following symptoms will appear.

1. The level of RF output (EFM output : amplitude of eye pattern) will below.



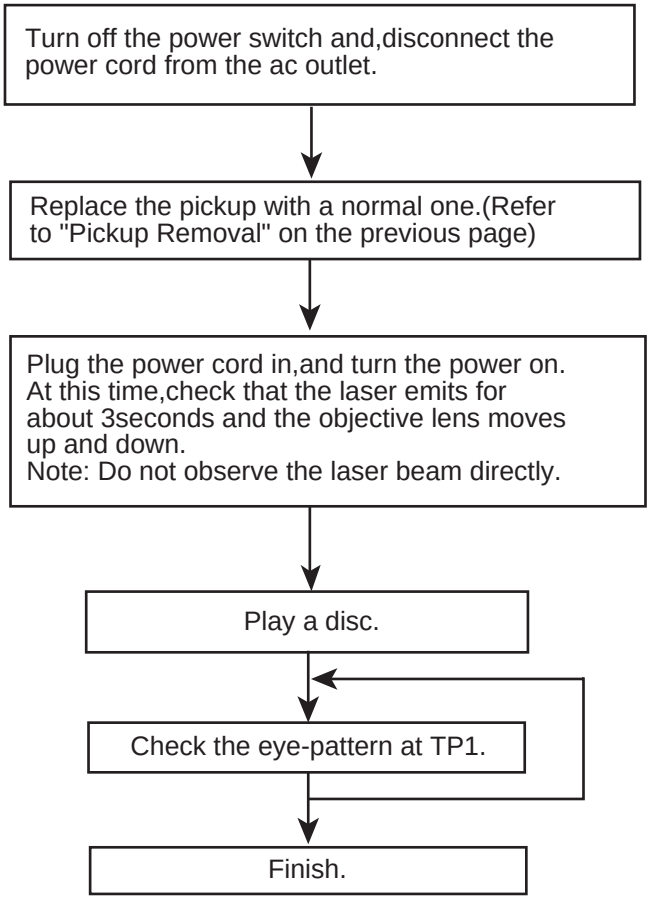
(3) Semi-fixed resistor on the APC PC board

The semi-fixed resistor on the APC printed circuit board which is attached to the pickup is used to adjust the laser power. Since this adjustment should be performed to match the characteristics of the whole optical block, do not touch the semi-fixed resistor.

If the laser power is lower than the specified value, the laser diode is almost worn out, and the laser pickup should be replaced.

If the semi-fixed resistor is adjusted while the pickup is functioning normally, the laser pickup may be damaged due to excessive current.

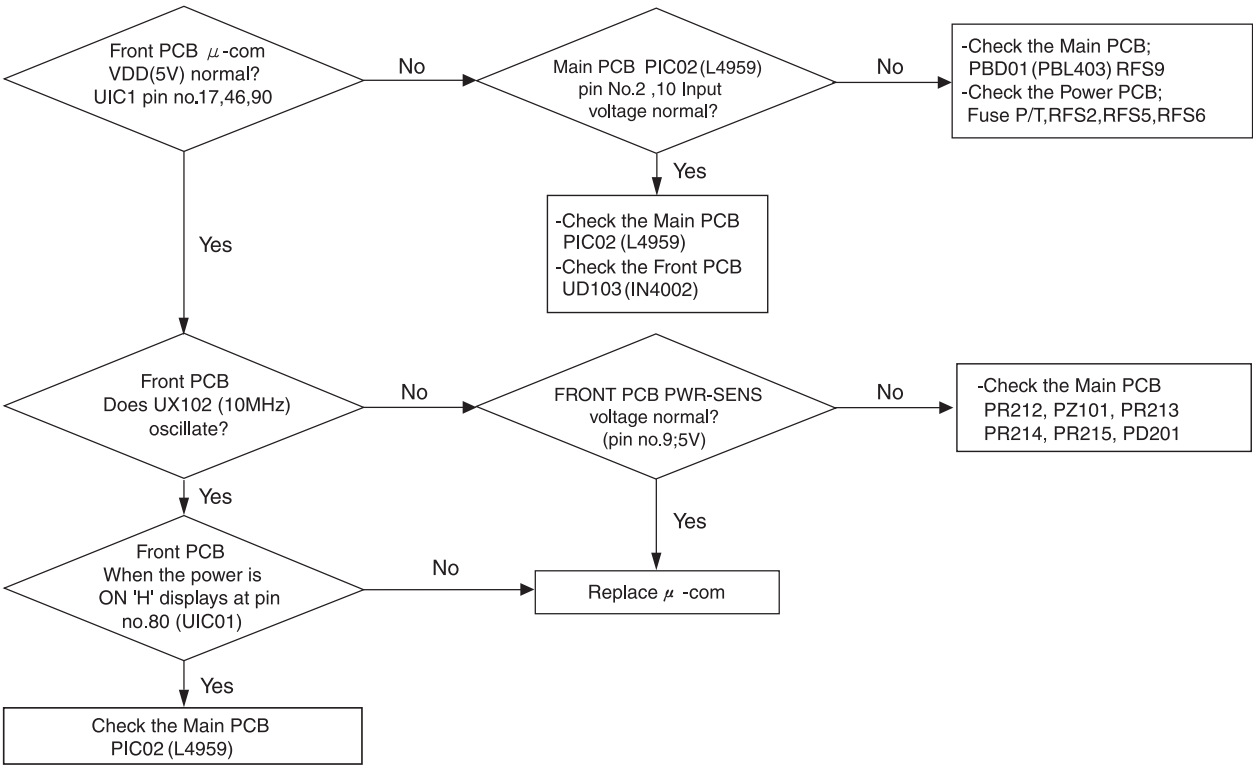
Replacement of laser pickup


Turn off the power switch and,disconnect the power cord from the ac outlet.
Replace the pickup with a normal one.(Refer to "Pickup Removal" on the previous page)
Plug the power cord in,and turn the power on. At this time,check that the laser emits for about 3seconds and the objective lens moves up and down.
Note: Do not observe the laser beam directly.
Play a disc.
Check the eye-pattern at TP1.
Finish.

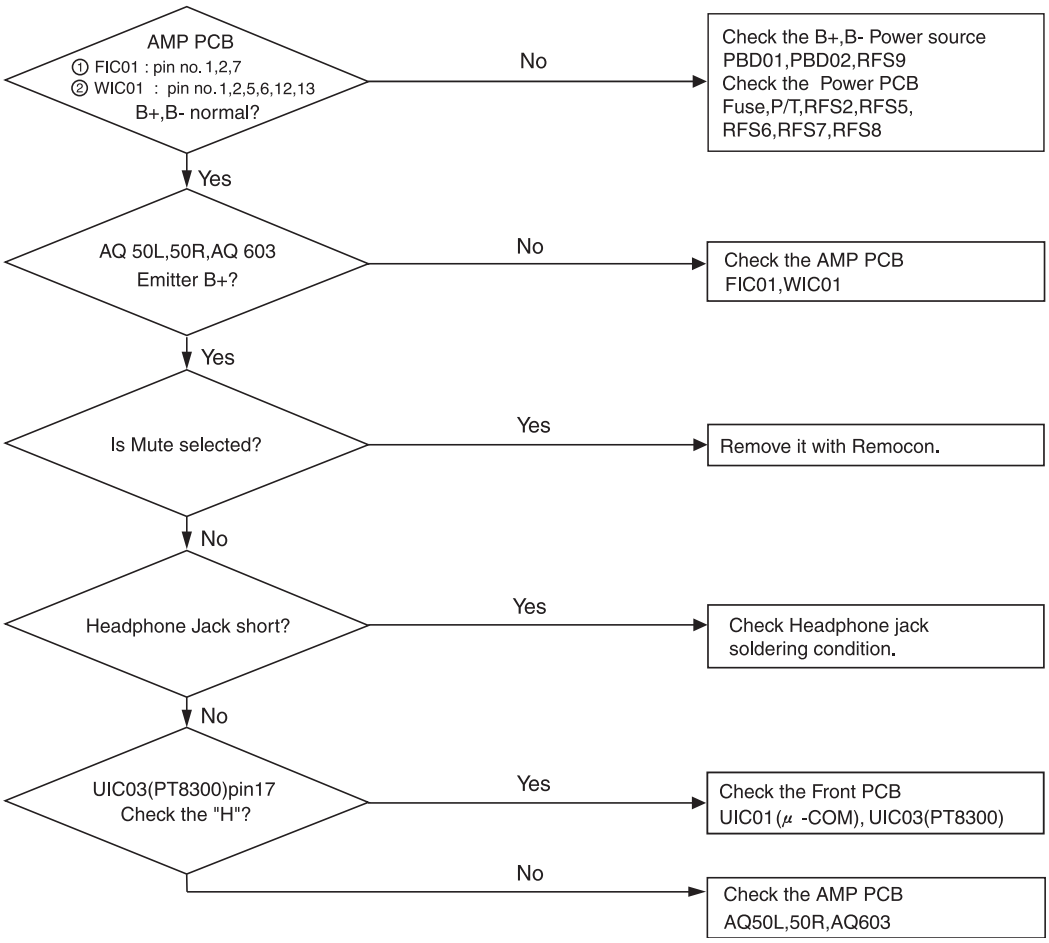
Troubleshooting

1. Amplifier

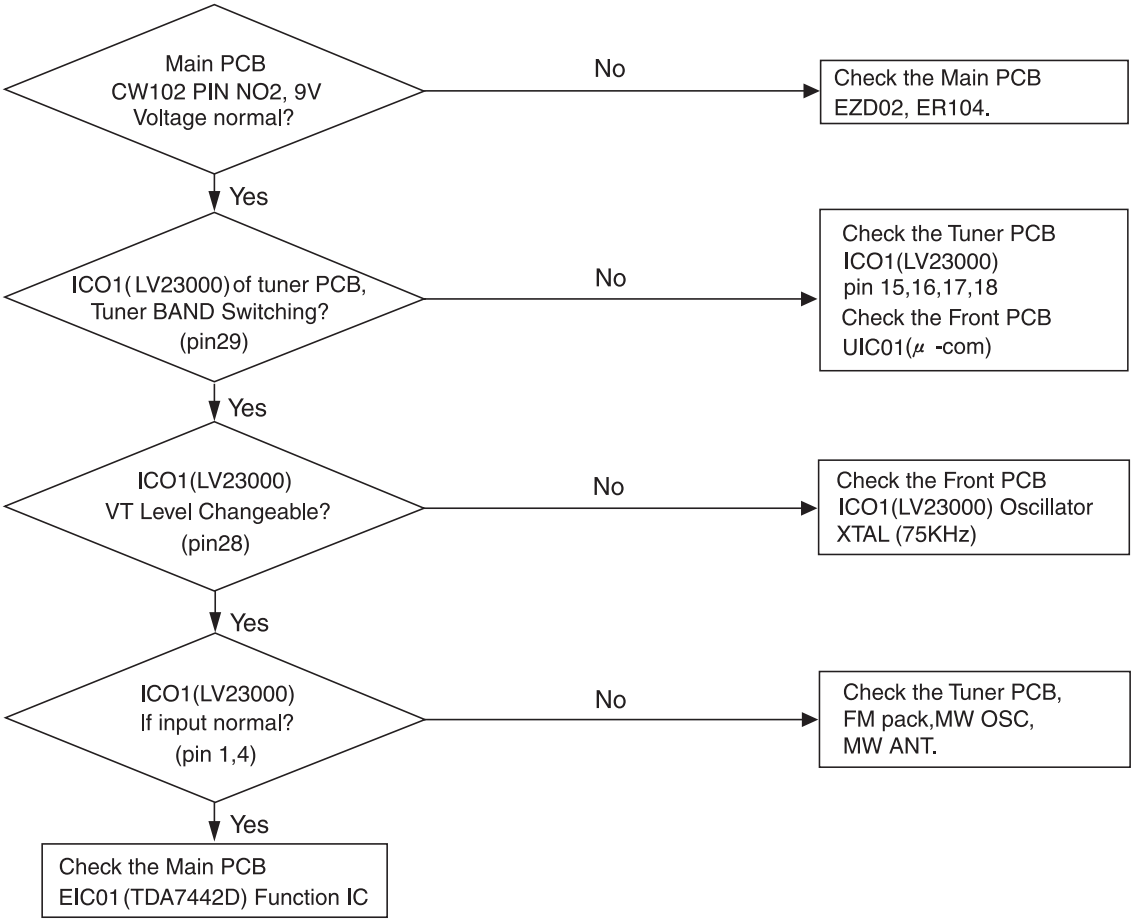
Power malfunction


Front PCB μ-com VDD(5V) normal? UIC1 pin no.17,46,90
No
Main PCB PIC02 (L4959) pin No.2 ,10 Input voltage normal?
No
-Check the Main PCB; PBD01 (PBL403) RFS9
-Check the Power PCB; Fuse P/T,RFS2,RFS5,RFS6
Yes
-Check the Main PCB PIC02 (L4959)
-Check the Front PCB UD103 (IN4002)
Yes
Front PCB Does UX102 (10MHz) oscillate?
No
FRONT PCB PWR-SENS voltage normal? (pin no.9;5V)
No
-Check the Main PCB PR212, PZ101, PR213 PR214, PR215, PD201
Yes
Yes
Front PCB When the power is ON 'H' displays at pin no.80 (UIC01)
No
Replace μ -com
Yes
Check the Main PCB PIC02 (L4959)

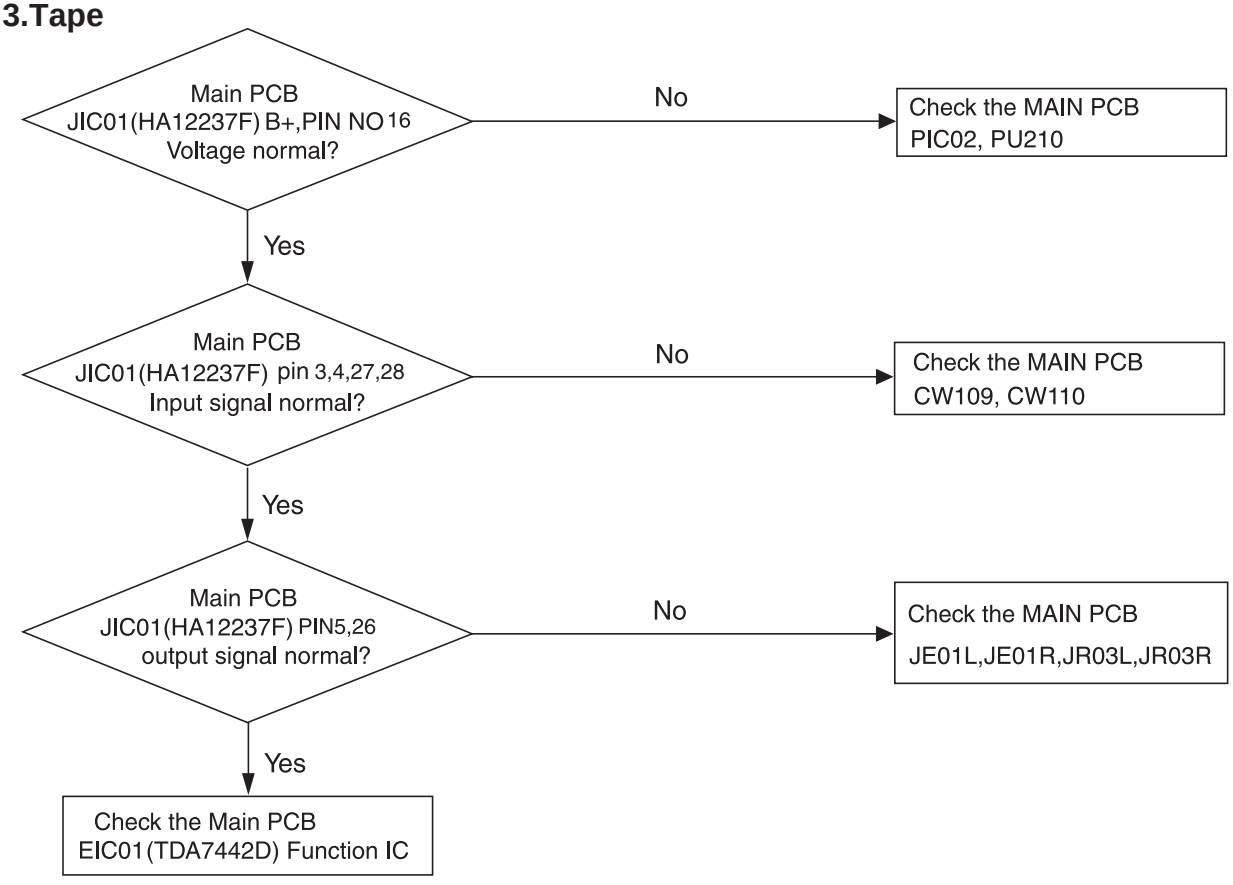
No output



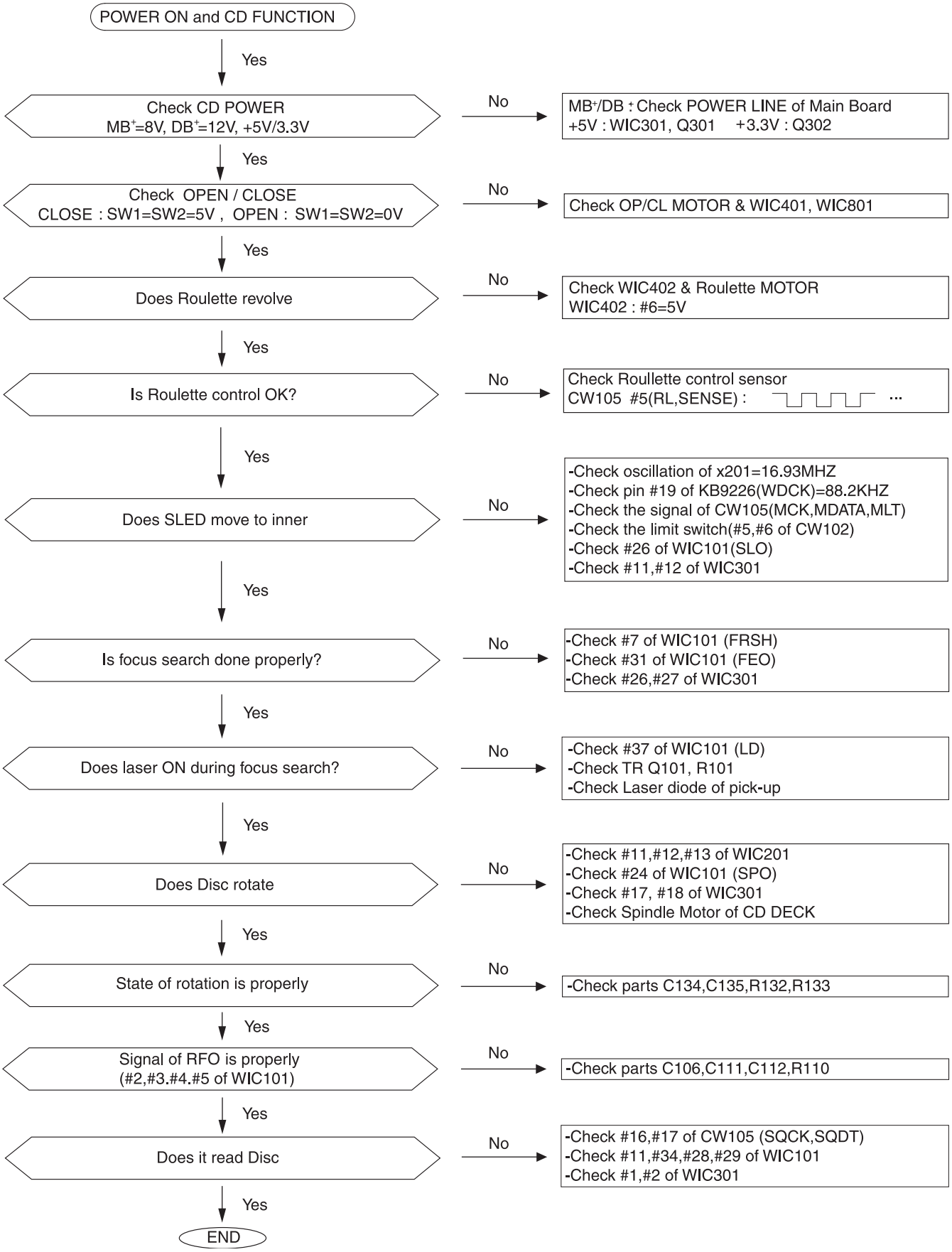
2.Tuner malfunction (FM/AM)



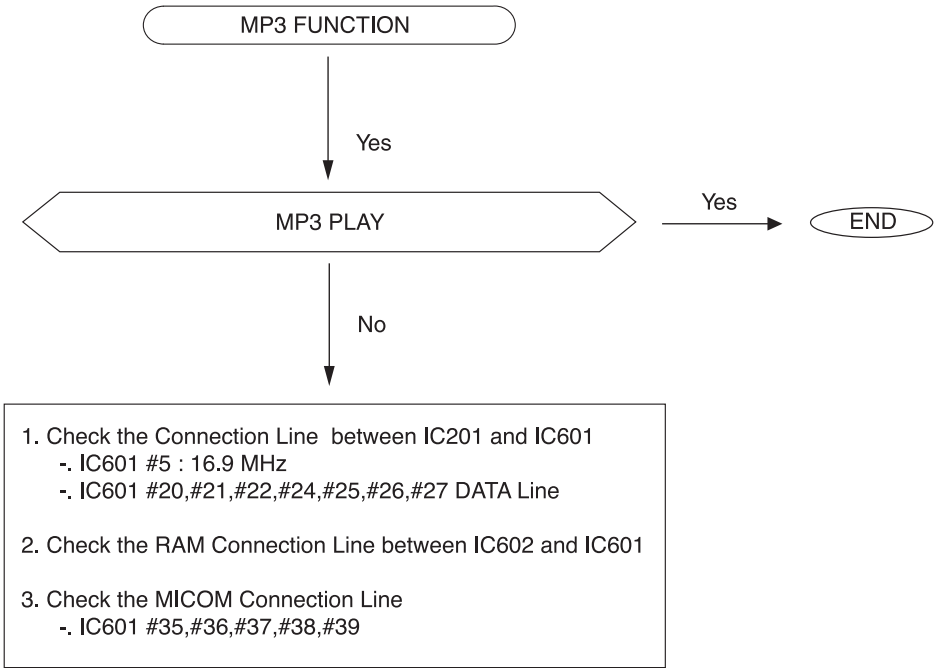
3.Tape



4.CD


POWER ON and CD FUNCTION
Yes
Check CD POWER
MB+=8V, DB+=12V, +5V/3.3V
No
MB+/DB+ Check POWER LINE of Main Board
+5V : WIC301, Q301 +3.3V : Q302
Yes
Check OPEN / CLOSE
CLOSE : SW1=SW2=5V , OPEN : SW1=SW2=0V
No
Check OP/CL MOTOR & WIC401, WIC801
Yes
Does Roulette revolve
No
Check WIC402 & Roulette MOTOR
WIC402 : #6=5V
Yes
Is Roulette control OK?
No
Check Roullette control sensor
CW105 #5(RL,SENSE) :
Yes
Does SLED move to inner
No
-Check oscillation of x201=16.93MHZ
-Check pin #19 of KB9226(WDCK)=88.2KHZ
-Check the signal of CW105(MCK,MDATA,MLT)
-Check the limit switch(#5,#6 of CW102)
-Check #26 of WIC101(SLO)
-Check #11,#12 of WIC301
Yes
Is focus search done properly?
No
-Check #7 of WIC101 (FRSH)
-Check #31 of WIC101 (FEO)
-Check #26,#27 of WIC301
Yes
Does laser ON during focus search?
No
-Check #37 of WIC101 (LD)
-Check TR Q101, R101
-Check Laser diode of pick-up
Yes
Does Disc rotate
No
-Check #11,#12,#13 of WIC201
-Check #24 of WIC101 (SPO)
-Check #17, #18 of WIC301
-Check Spindle Motor of CD DECK
Yes
State of rotation is properly
No
-Check parts C134,C135,R132,R133
Yes
Signal of RFO is properly
(#2,#3.#4.#5 of WIC101)
No
-Check parts C106,C111,C112,R110
Yes
Does it read Disc
No
-Check #16,#17 of CW105 (SQCK,SQDT)
-Check #11,#34,#28,#29 of WIC101
-Check #1,#2 of WIC301
Yes
END

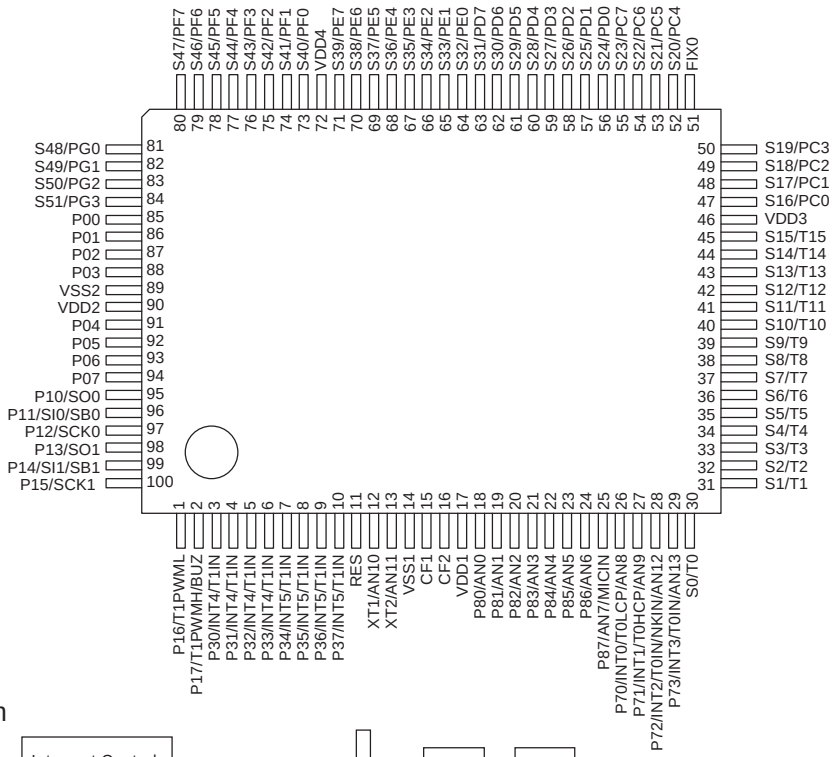
5.CD - MP3 parts



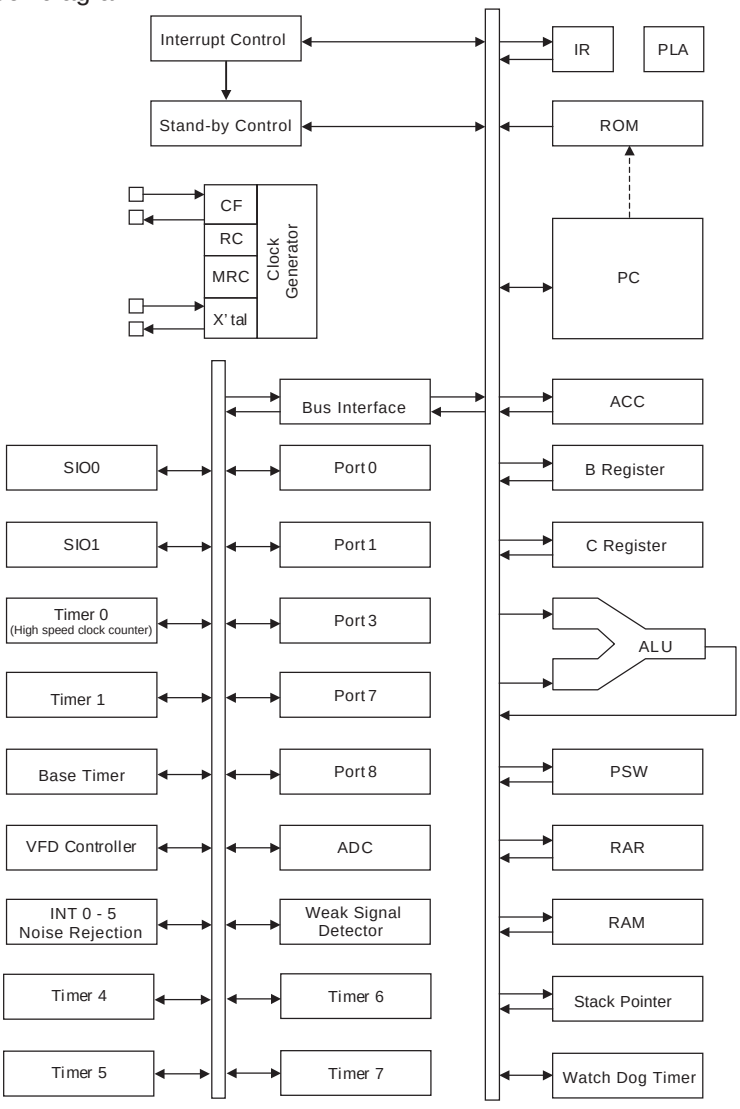
Description of major ICs

■ LC876764 (UIC1) : Microcontroller

1.Pin layout



2.Block diagram



3. Pin function (1/2)

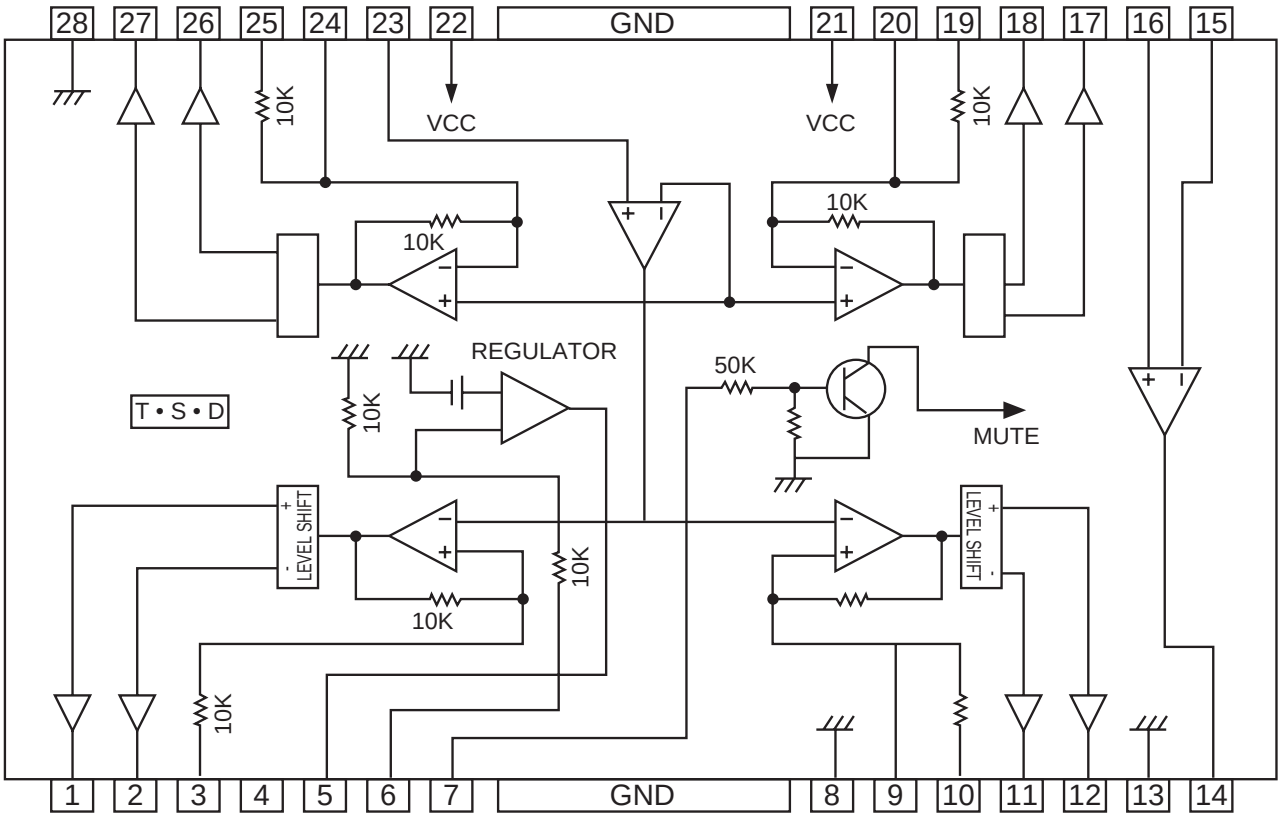
Pin name	I/O	Function
VSS1, 2	-	Power supply (-)
VDD1,2,3,4	-	Power supply (+)
FIX0	-	Test pin Set as VSS with the user's option. (see Note 1)
PORT0 P00 to P07	I/O	• 8bit input/output port • Data direction programmable in nibble units • Use of pull-up resistor can be specified in nibble units • Input for HOLD release • Input for port 0 interrupt
PORT1 P10 to P17	I/O	• 15V withstand at N-channel open drain output • 8bit input/output port • Data direction programmable for each bit • Use of pull-up resistor can be specified for each bit • Other pin functions P10: SIO0 data output P11: SIO0 data input / bus input / output P12: SIO0 clock input / output P13: SIO1 data output P14: SIO1 data input / bus input / output P15: SIO1 clock input / output P16: Timer 1 PWML output P17: Timer 1 PWMH output / Buzzer output
PORT3 P30 to P37	I/O	• 8bit input/output port • Data direction can be specified for each bit • Use of pull-up resistor can be specified for each bit • 15V withstand at N-channel open drain output • Other functions: P30 to P33: INT4 input / HOLD release input / Timer 1 event input / Timer 0L capture input / Timer 0H capture input P34 to P37: INT5 input / HOLD release input / Timer 1 event input / Timer 0L capture input / Timer 0H capture input
PORT7 P70 to P73	I/O	• 4bit input/output port • Data direction can be specified for each bit • Use of pull-up resistor can be specified for each bit • Other functions P70: INT0 input / HOLD release input / Timer0L capture input / Output for watchdog timer P71: INT1 input / HOLD release input / Timer0H capture input P72: INT2 input / HOLD release input / Timer 0 event input / Timer0L capture input / High speed clock counter input P73: INT3 input(noise rejection filter attached input) / Timer 0 event input / Timer 0H capture input AD input port: AN8(P70), AN9(P71), AN12(P72), AN13(P73)
PORT8 P80 to P87	I/O	• 8bit input/output port • Input/output can be specified in a bit unit • Other functions: AD input port: AN0 to AN7 Weak signal detector input port: MICIN(P87)
S0/T0 to S8/T8	O	• Large current output for VFD display controller digit (can be used for segment)
S9/T9 to S15/T15	O	• Large current output for VFD display controller segment/digit
S16 to S23	I/O	• Output for VFD display controller segment/digit • Other functions: High voltage input port: PC0 to PC7
S24 to S31	I/O	• Output for VFD display controller segment • Other functions: High voltage input port: PD0 to PD7

3. Pin function (2/2)

Pin name	I/O	Function
S32 to S39	I/O	• Output for VFD display controller segment • Other functions High voltage input port: PE0 to PE7
S40 to S47	I/O	• Output for VFD display controller segment • Other functions: High voltage input/output port: PF0 to PF7
S48 to S51	I/O	• Output for VFD display controller segment • Other functions: High voltage input/output port: PG0 to PG3
$\overline{RES}$	I	Reset terminal
XT1	I	• Input for 32.768kHz crystal oscillation • Other functions: General purpose input port When not in use, connect to VDD1. AD input port: AN10
XT2	I/O	• Output for 32.768kHz crystal oscillation • Other functions: General purpose input port When not in use, set to oscillation mode and leave open circuit.
CF1	I	AD input port: AN11
CF2	O	Input terminal for ceramic oscillator Output terminal for ceramic oscillator

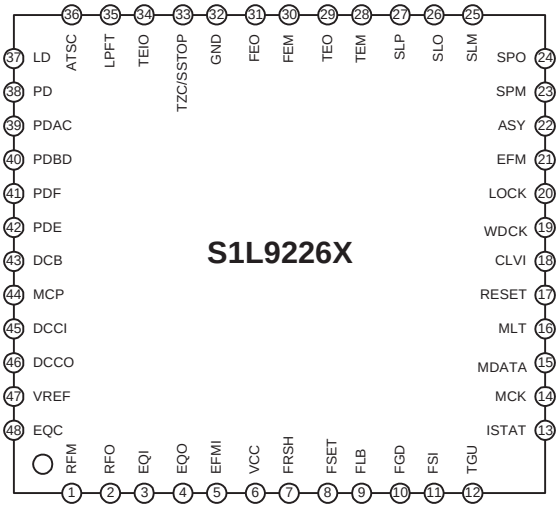
■ KA9258D (IC301) : 4-ch Motor driver

1.Block diagram

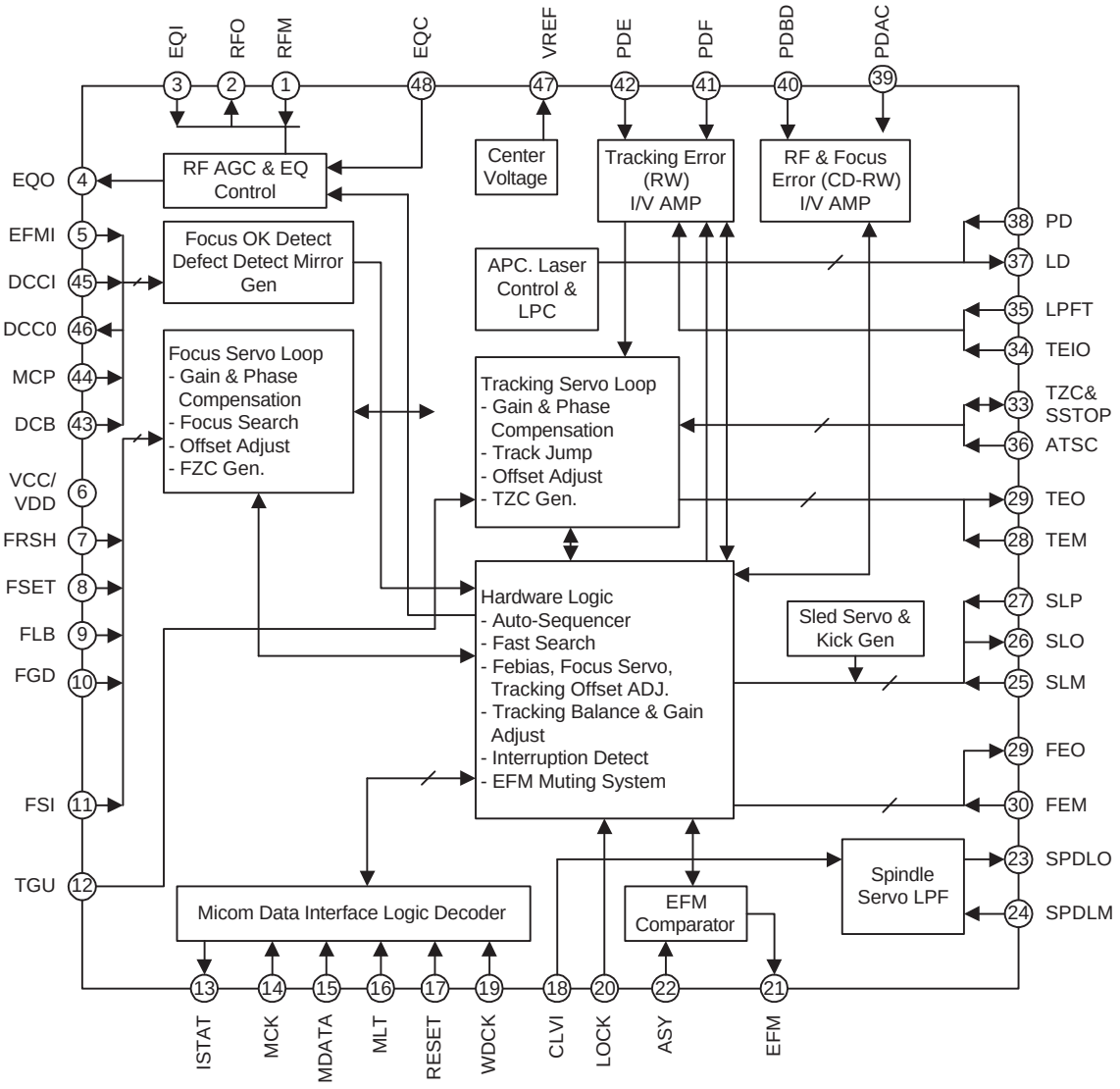


■KB9226 (IC101) : RF amp. & servo signal processor

1. Pin layout



2. Block diagram

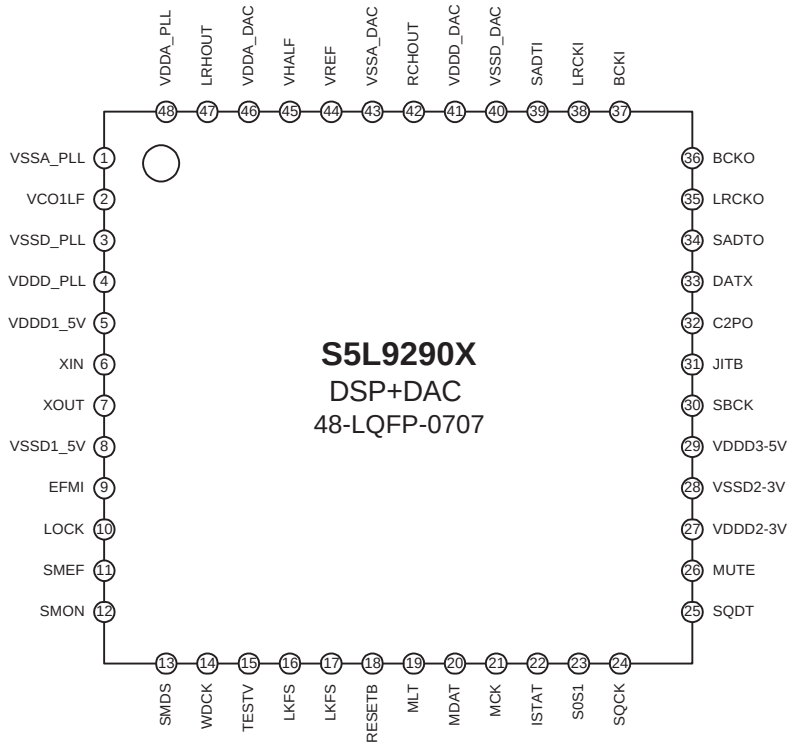


3. Pin function

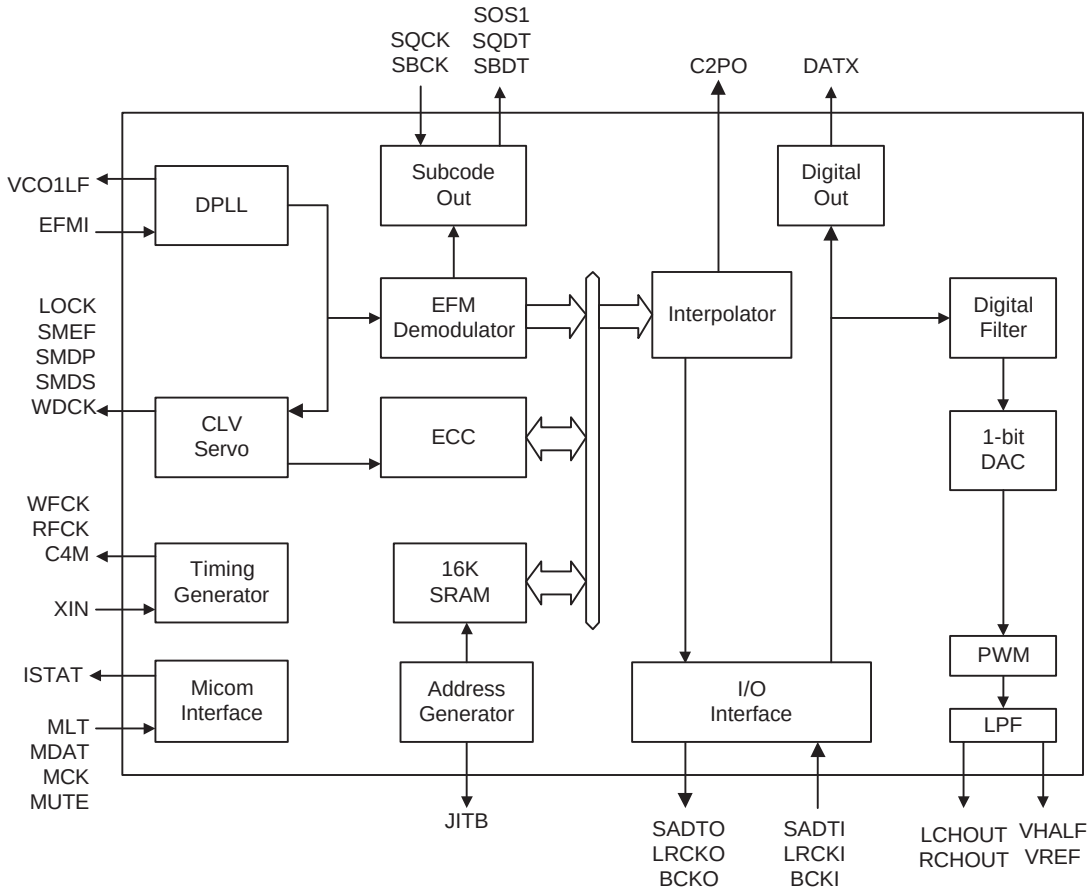
Pin No.	Symbol	I/O	Function
1	RFM	I	RF summing amp. inverting input
2	RFO	O	RF summing amp. output
3	EQI	I	RFO DC eliminating input(use by MIRROR, FOK ,AGC & EQ terminal)
4	EQO	O	RF equalizer output
5	EFMI	I	EFM slice input. (input impedance 47K)
6	VCC	P	Main power supply
7	FRSH	I	Capcitor connection to focus search
8	FSET	I	Filter bias for focus,tracking,spindle
9	FLB	I	Capacitor connection to make focus loop rising band
10	FGD	I	Terminal to change the hign frequency gain of focus loop
11	FSI	I	Focus servo input
12	TGU	I	Connect the component to change the high frequency of tracking Loop
13	ISTAT	O	Internal status output
14	MCK	I	Micom clock
15	MDATA	I	Data input
16	MLT	I	Data latch input
17	RESET	I	Reset input
18	CLVI	I	Input the spindle control output from DSP
19	WDCK	I	88.2KHz input terminal from DSP
20	LOCK	I	Sled run away inhibit pin (L: sled off & tracking gain up)
21	EFM	O	EFM output for RFO slice(to DSP)
22	ASY	I	Auto asymmetry control input
23	SPM	I	Spindle amp. inverting input
24	SPO	O	Spindle amp. output
25	SLM	I	Sled servo inverting input
26	SLO	O	Sled servo output
27	SLP	I	Sled servo noninverting input
28	TEM	I	Tracking servo amp.inverting input
29	TEO	O	Tracking servo amp. output
30	FEM	I	Focus servo amp. inverting input
31	FEO	O	Focus servo amp. output pin
32	GND	P	Main ground
33	TZC/ SSTOP	I	Tracking zero crossing input & Check the position of pick-up wherther inside or not
34	TEIO	B	Tracking error output & Tracking servo input
35	LPFT	I	Tracking error integration input (to automatic control)
36	ATSC	I	Anti-shock input
37	LD	O	APC amp. output
38	PD	I	APC amp. input
39	PDAC	I	Photo diode A & C RF I/V amp. inverting input
40	PDBD	I	Photo diode B & D RF I/V amp. inverting input
41	PDF	I	Photo diode F & tracking(F) I/V amp. inverting input
42	PDE	I	Photo diode E & tracking(E) I/V amp. inverting input
43	DCB	I	Capacitor connection to limit the defect detection
44	MCP	I	Capacitor connection to mirror hold
45	DCCI	O	Output pin to connect the component for defect detect
46	DCCO	I	Input pin to connect the component for defect detect
47	VREF	O	(VCC+GND)/2 Voltage reference output
48	EQC	I	AGC_equalize level control terminal & capacitor terminal to input in to VCA

■ 5L9290 (IC201) : Digital signal processor for CDP

1. Pin layout



2. Block diagram

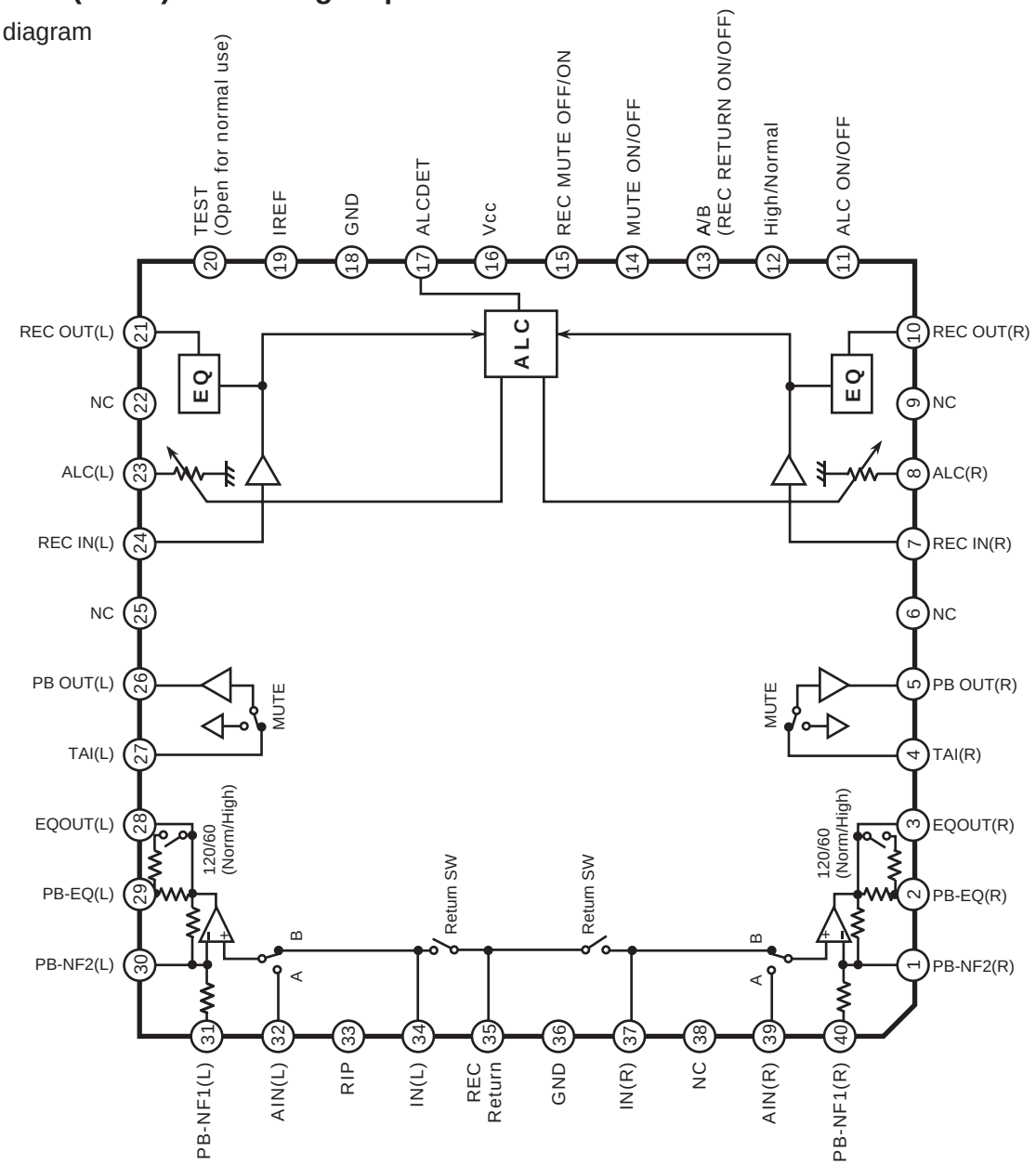


3. Pin function

NO.	Symbol	I/O	Function
1	VSSA_PLL	-	Analog Ground for DPLL
2	VCO1LF	O	Pump out for VCO1
3	VSSD_PLL	-	Digital Ground Separated Bulk Bias for DPLL
4	VDDD_PLL	-	Digital Power Separated Bulk Bias for DPLL (3V Power)
5	VDDD1-5V	-	Digital Power (5V Power, I/O PAD)
6	XIN	I	X'tal oscillator input (16.9344MHz)
7	XOUT	O	X'tal oscillator output
8	VSSD1	-	Digital Ground (I/O PAD)
9	EFMI	I	EFM signal input
10	LOCK	O	CLV Servo locking status output
11	SMEF	O	LPF time constant control of the spindle servo error signal
12	SMDP	O	Phase control output for Spindle Motor drive
13	SMDS	O	Speed control output for Spindle Motor drive
14	WDCK	O	Word clock output (Normal Speed : 88.2KHz, Double Speed : 176.4KHz)
15	TESTV	I	Various Data/Clock Input
16	LKFS	O	The Lock status output of frame sync
17	C4M	O	4.2336MHz clock output
18	RESETB	I	System Reset at 'L'
19	MLT	I	Latch signal input from Micom
20	MDAT	I	Serial data input from Micom
21	MCK	I	Serial data receiving clock input from Micom
22	ISTAT	O	The internal status output to Micom
23	S0S1	O	Subcode sync signal(S0+S1) output
24	SQCK	I	Subcode-Q data transfering bit clock input
25	SQDT	O	Subcode-Q data serial output
26	MUTE	I	System mute at 'H'
27	VDDD2-3V	-	Digital Power (3V Power, Internal Logic)
28	VSSD2	-	Digital Ground (Internal Logic)
28	VDDD3-5V	-	Digital Power (5V Power, I/O PAD)
30	SBCK	I	Subcode data transfering bit clock
31	JITB	O	Internal SRAM jitter margin status output
32	C2PO	O	C2 pointer output
33	DATX	O	Digital audio data output
34	SADTO	O	Serial audio data output (48 slot, MSB first)
35	LRCKO	O	Channel clock output
36	BCKO	O	Bit clock output
37	BCKI	I	Bit clock input
38	LRCKI	I	Channel clock input
39	SADTI	I	Serial audio data input (48 slot, MSB first)
40	VSSD_DAC	-	Digital Ground for DAC
41	VDDD_DAC	-	Digital Power for DAC (3V Power)
42	RCHOUT	O	Right-Channel audio output through DAC
43	VSSA_DAC	-	Analog Ground for DAC
44	VREF	O	Referance Voltage output for bypass
45	VHALF	O	Referance Voltage output for bypass
46	VDDA_DAC	-	Analog Power for DAC (3V Power)
47	LCHOUT	O	Left-Channel audio output through DAC
48	VDDA_PLL	-	Analog Power for PLL (3V Power)

■ HA12237 (JIC01) : Audio signal processor

1. Block diagram

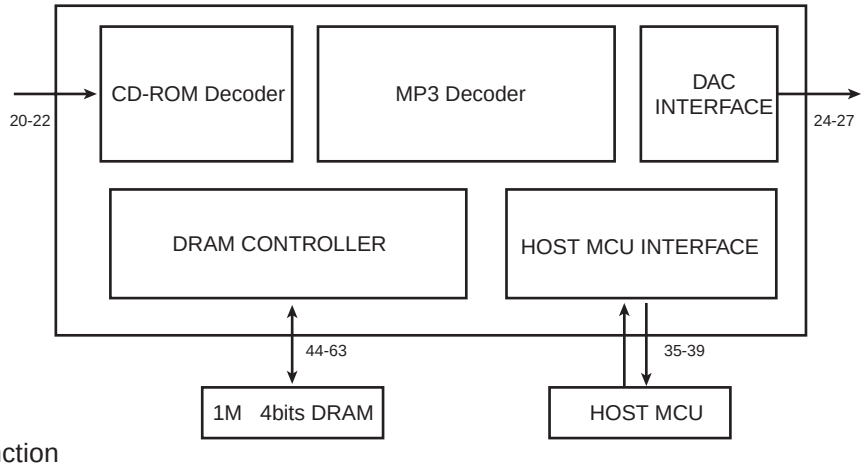


2. Pin function

Pin No.	Symbol	Function	Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	PB-NF2(R)	PB EQ feed back	15	REC MUTE OFF/$\overline{ON}$	Mode control input	27	TAI(L)	Tape input
2	PB-EQ(R)	NAB output				28	EQOUT(L)	EQ output
3	EQOUT(R)	EQ output	16	Vcc	Vcc pin	29	PB-EQ(L)	NAB output
4	TAI(R)	Tape input	17			30	PB-NF2(L)	PB EQ feed back
5	PBOUT(R)	PB output	18	GND	GND pin	31	PB-NF(L)	PB EQ feed back
6	NC	NC pin	19	IREF	Equalizer reference	32	AIN(L)	PB A deck input
7	RECIN(R)	REC-EQ input			current input	33	RIP	Ripple filter
8			20	Test mode	Test mode pin	34	BIN(L)	PB B deck input
9	NC	NC pin	21	RECOUT(L)	REC output	35	REC-RETURN	REC Return
10	RECOUT(R)	REC output	22	NC	NC pin	36	GND	GND pin
11	ALC ON/$\overline{OFF}$	Mode control input	23			37	BIN(R)	PB B deck input
12	High/$\overline{Norm}$	Mode control input	24	RECIN(L)	REC-EQ input	38	NC	NC pin
13	A/$\overline{B}$	Mode control input	25	NC	NC pin	39	AIN(R)	PB A deck input
14	MUTE ON/$\overline{OFF}$	Mode control input	26	PBOUT(L)	PB output	40	PB-NF1(R)	PB EQ feed back

■ KS9274 (IC601) : CD-MP3 decoder

1.Block diagram

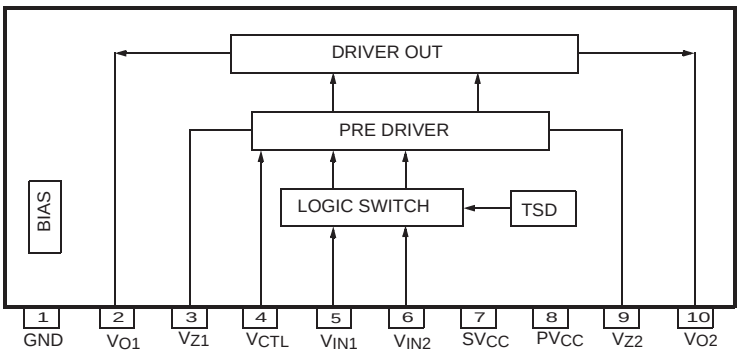


2.Pin function

5	CLK	I	System clock input
6	RESETB	I	System reset actibe LOW
10	FILTER_0	O	820uF to GND940uF to GND
14	FILTER_1	O	When "HIGH" PLL is bypassed, Tied to LOW in normal operation
15	PLL_BYPASS	I	
20	CD_DATA	I	
21	CD_LRCK	I	
22	CD_BCK	I	
24	ACLK	O	
25	BCLK	O	
26	LRCK	O	
27	ADAT	O	
35	MDAT	I	Write/Read data from MCU to CD-MP3
36	MCK	I	Data strobe signal from MCU
37	MLAT	I	Micom command identifier from MCU to CD-MP3
38	MDOUT	O	Data from CD-MP3 to MCU
39	MINT	O	Intertupt output to MCU
44	DDAT0		Data BUS
45	DDAT1		Data BUS
46	WEB	O	Wtite enable
47	RASB	O	Row address strobe
50	DDAT2		Data BUS
51	DDAT3		Data BUS
52	CASB	O	Colume address strobe
53-62	DA9-DA0	O	Address output
63	OEB	O	Control output to make data output to "High-Z" at DRAM

■ KA3082 (IC401, IC402) : DC motor driver

1.Pin layout

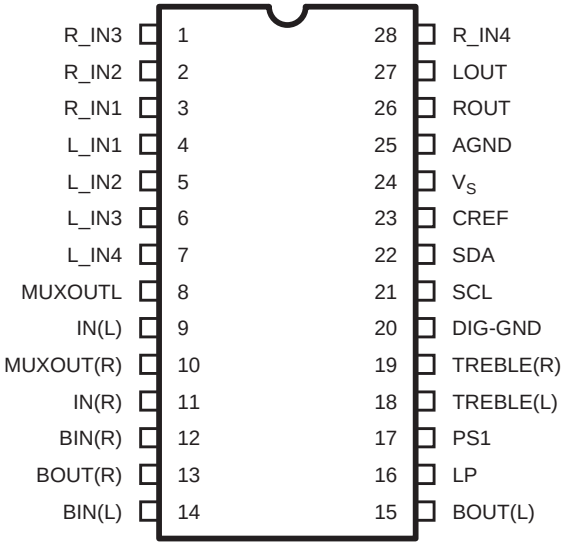


2.Pin function

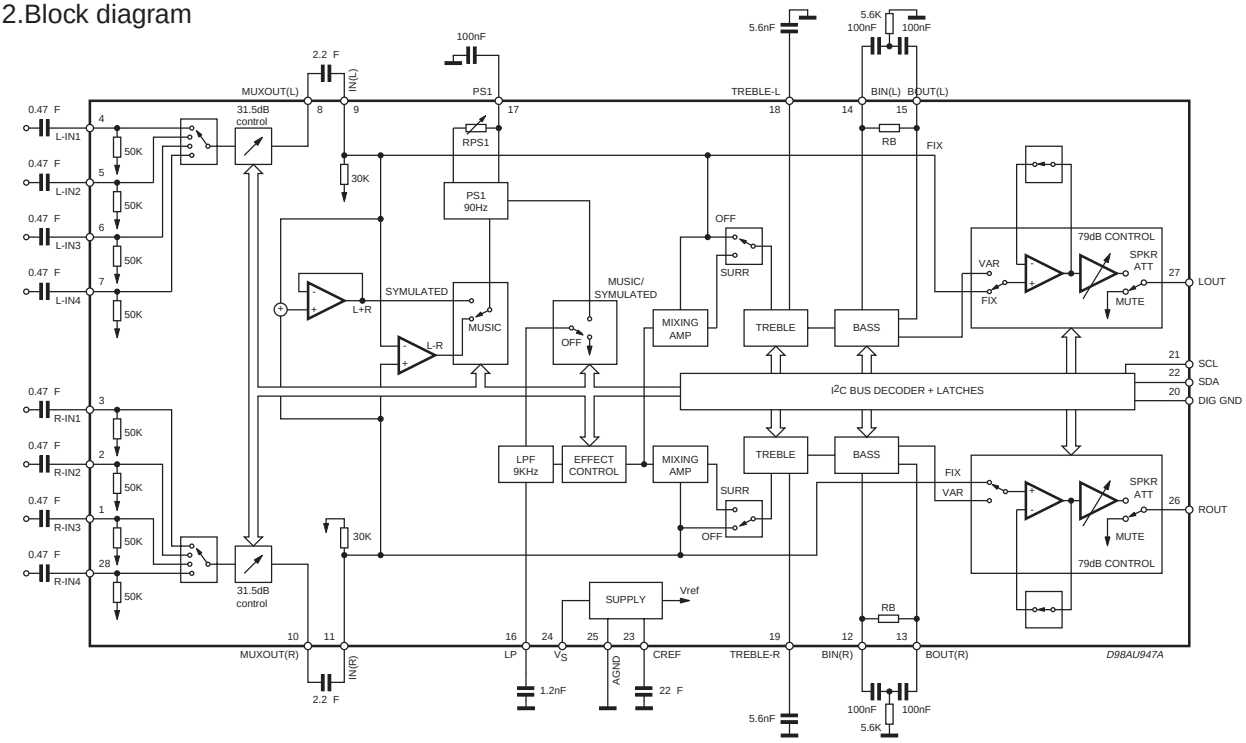
Pin No.	Symbol	I/O	Function
1	GND	-	Ground
2	VO1	O	Output 1
3	VZ1	-	Phase compensation
4	VCTL	I	Motor speed control
5	VIN1	I	Input 1
6	VIN2	I	Input 2
7	SVCC	-	Supply voltage (Signal)
8	PVCC	-	Supply voltage (Power)
9	VZ2	-	Phase compensation
10	VO2	O	Output 2

■ TDA7442D (EIC01) : Audio processor

1.Pin layout

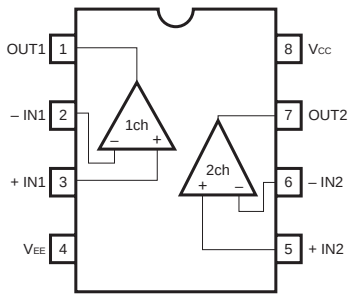


2.Block diagram



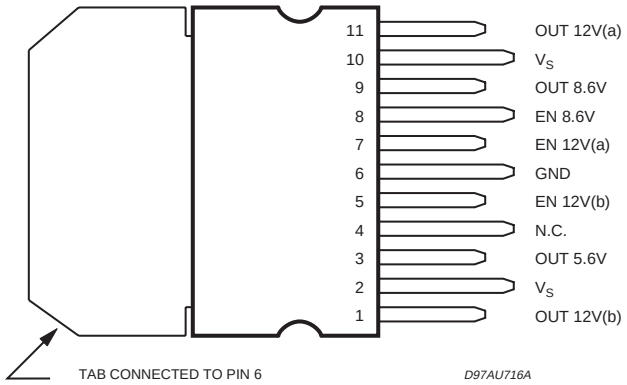
■ BA4560 (FIC02) : Dual op amp.

1.Pin layout

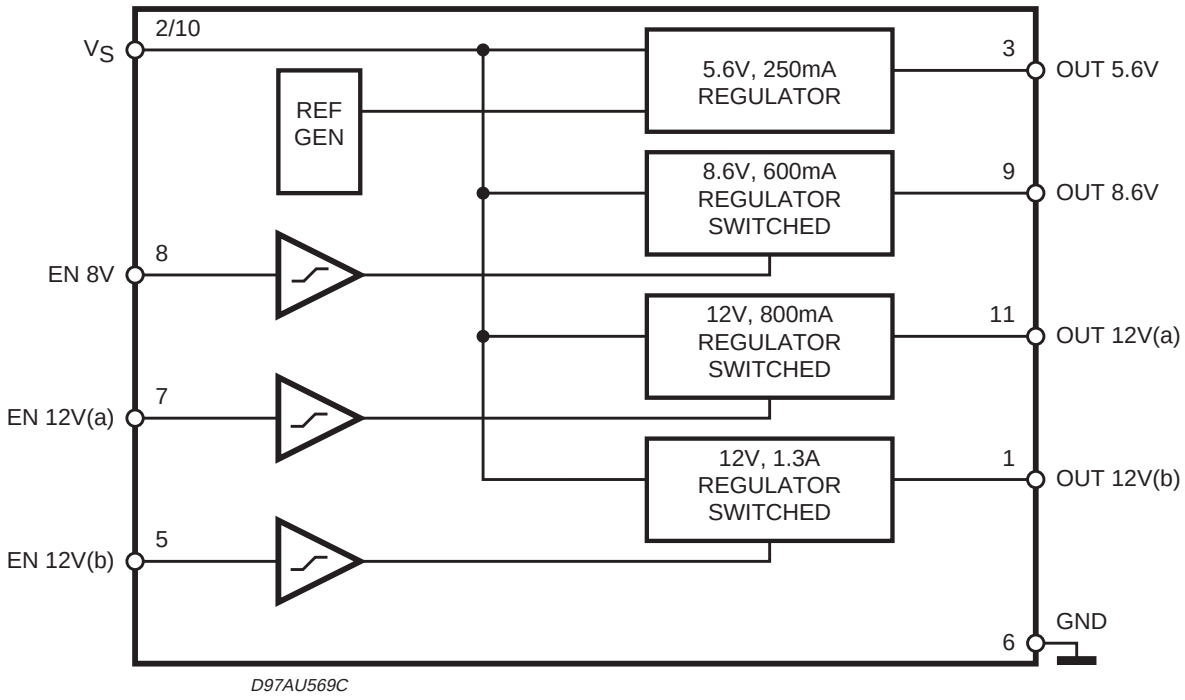


■ L4959 (PIC02) : Voltage regulator

1.Pin layout



2.Block diagram

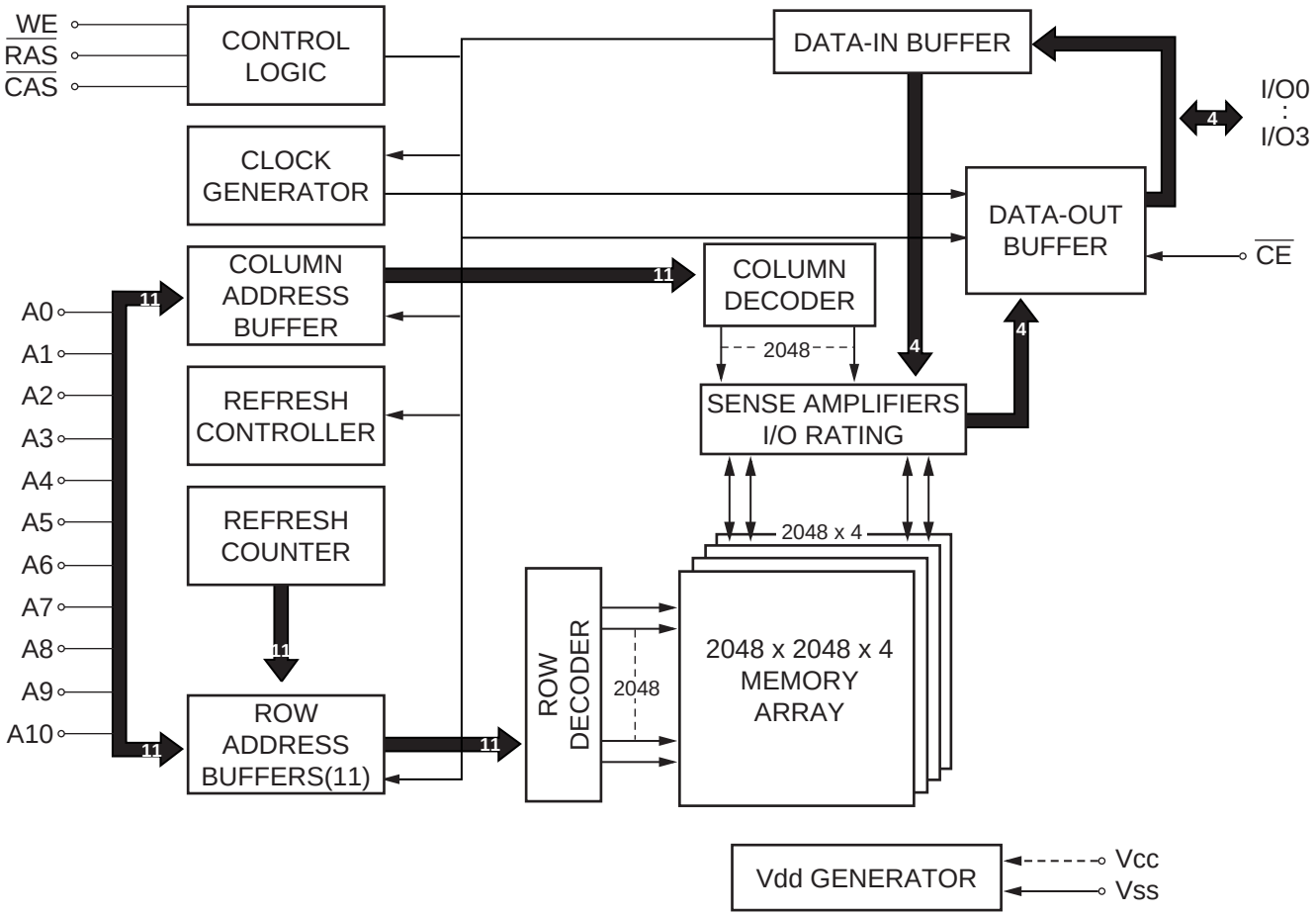


3.Pin function

Pin	Pins	Description
1	OUT 12V (b)	12V/1.3A SWITCHED OUTPUT VOLTAGE
2	V_S	Supply Voltage
3	OUT 5.6V	5.6V/250mA OUTPUT VOLTAGE
4	N.C.	not connected
5	EN 12V (b)	Enable 12V/1.3A SWITCHED OUTPUT VOLTAGE
6	GND	Ground
7	EN 12V (a)	Enable 12V/0.8A SWITCHED OUTPUT VOLTAGE
8	EN 8.6V	Enable 8.6V/0.6A SWITCHED OUTPUT VOLTAGE
9	OUT 8.6	8.6V/0.6A SWITCHED OUTPUT VOLTAGE
10	V_S	Supply Voltage
11	OUT 12V (a)	12V/0.8A SWITCHED OUTPUT VOLTAGE

■ M11L1644 (IC602) : DRAM

1. Block diagram

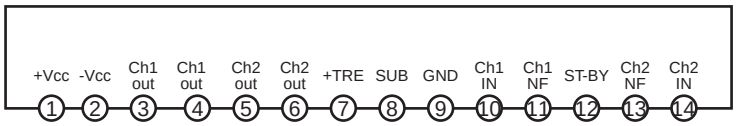


2. Pin function

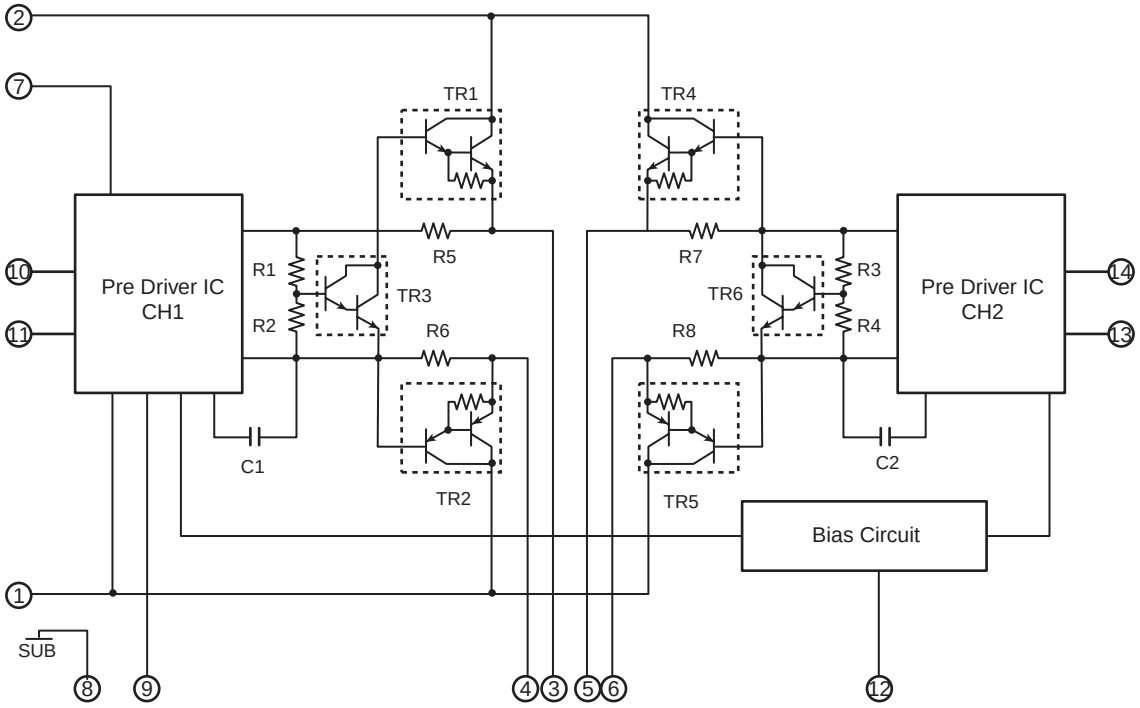
Pin No.	Symbol	I/O	Function
3~11, 14~19, 7	A0~A10	I	Address Input Row Address : A0~A10 Column Address : A0~A10
5	RAS	I	Row Address Strobe
21	CAS	I	Column Address Strobe
4	WE	I	Write Enable
20	OE	I	Output Enable
2, 3,22, 23	I/O0~I/O3	I/O	Data Input/ Ountput
1, 12	Vcc		Power (5V or 3.3V)
13, 24	Vss		Ground
6	NC	-	No Connect

■ STK403-070 (FIC01) : Power amp.

1.Pin layout

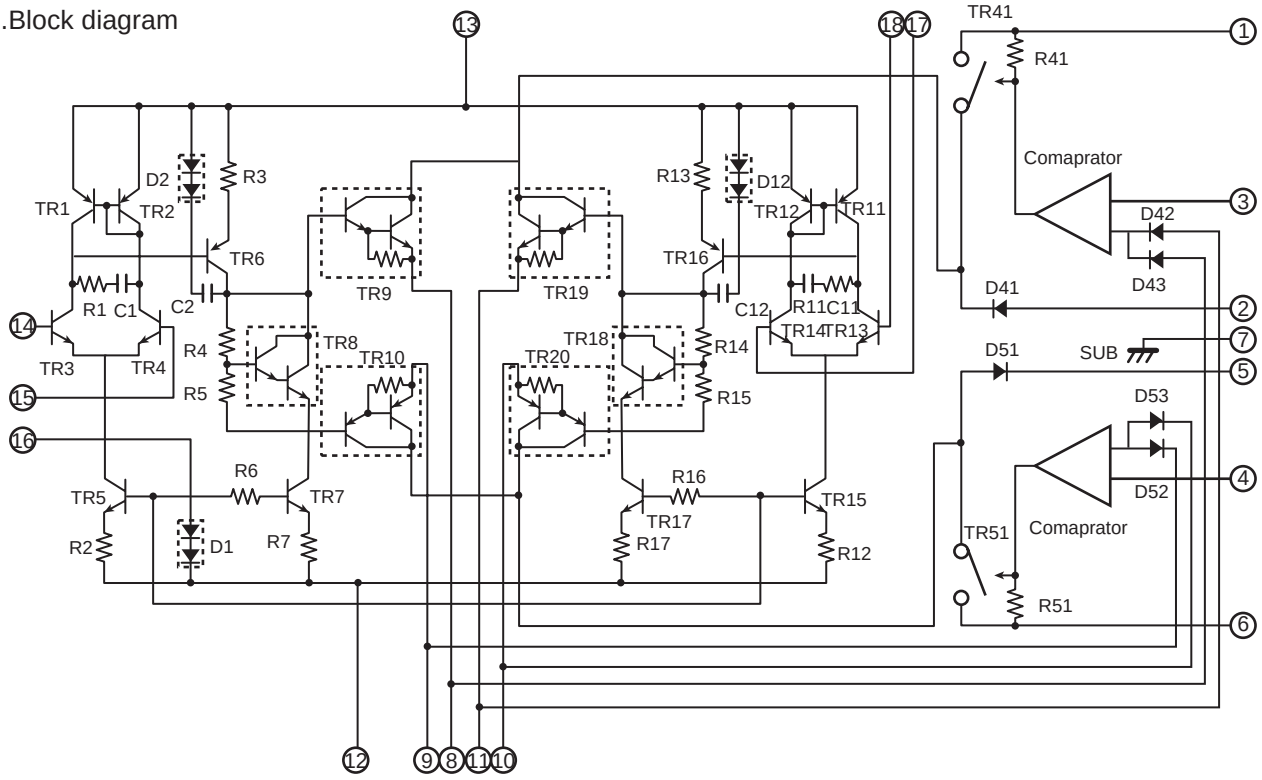


2.Block diagram



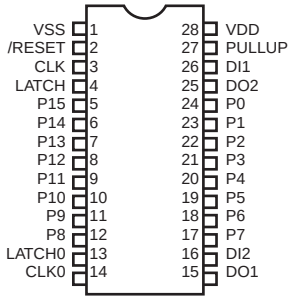
■ STK412-020 (WIC01) : Power amp.

1.Block diagram

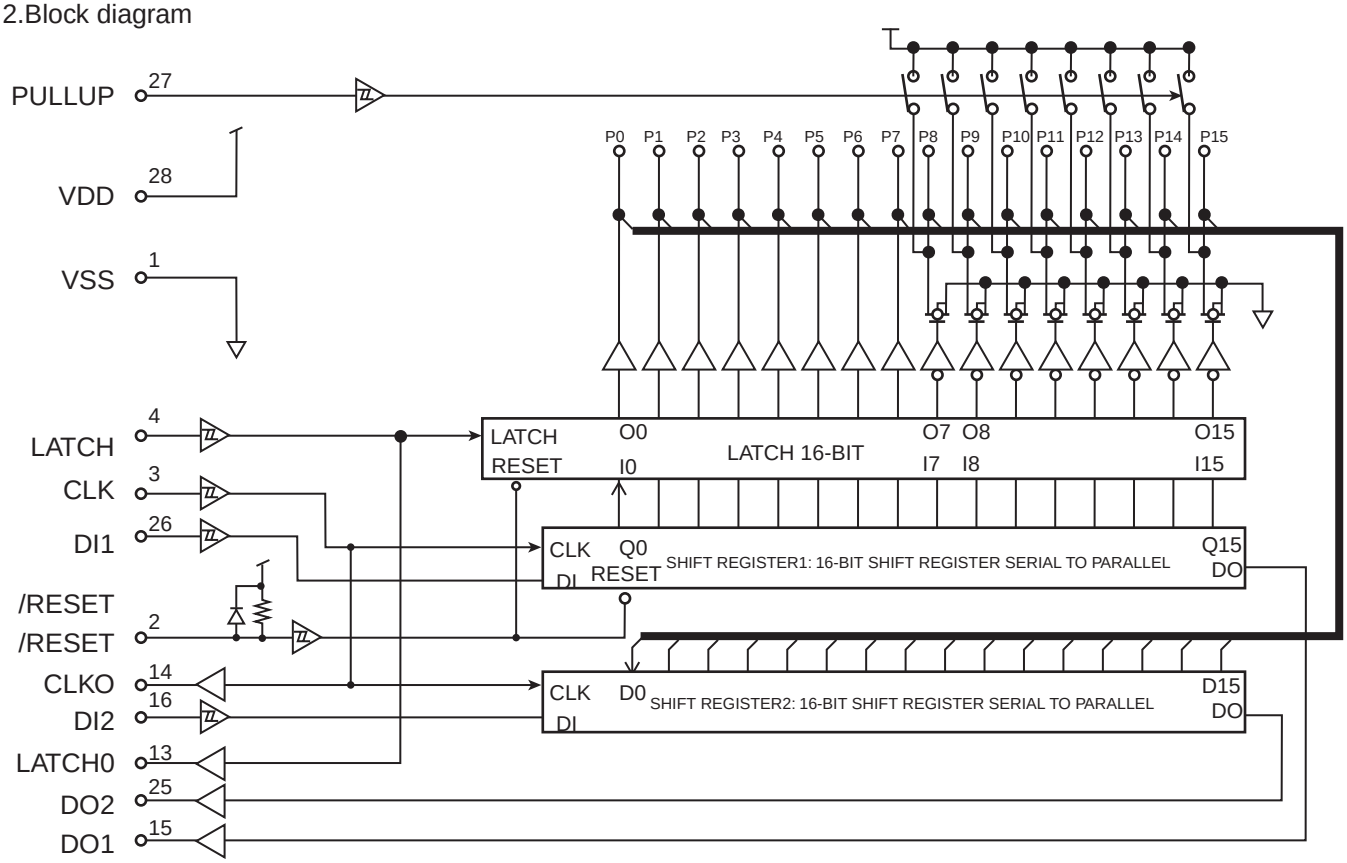


■ PT8300 (UIC03, UIC04) : DRAM

1.Pin layout



2.Block diagram



3. Pin function

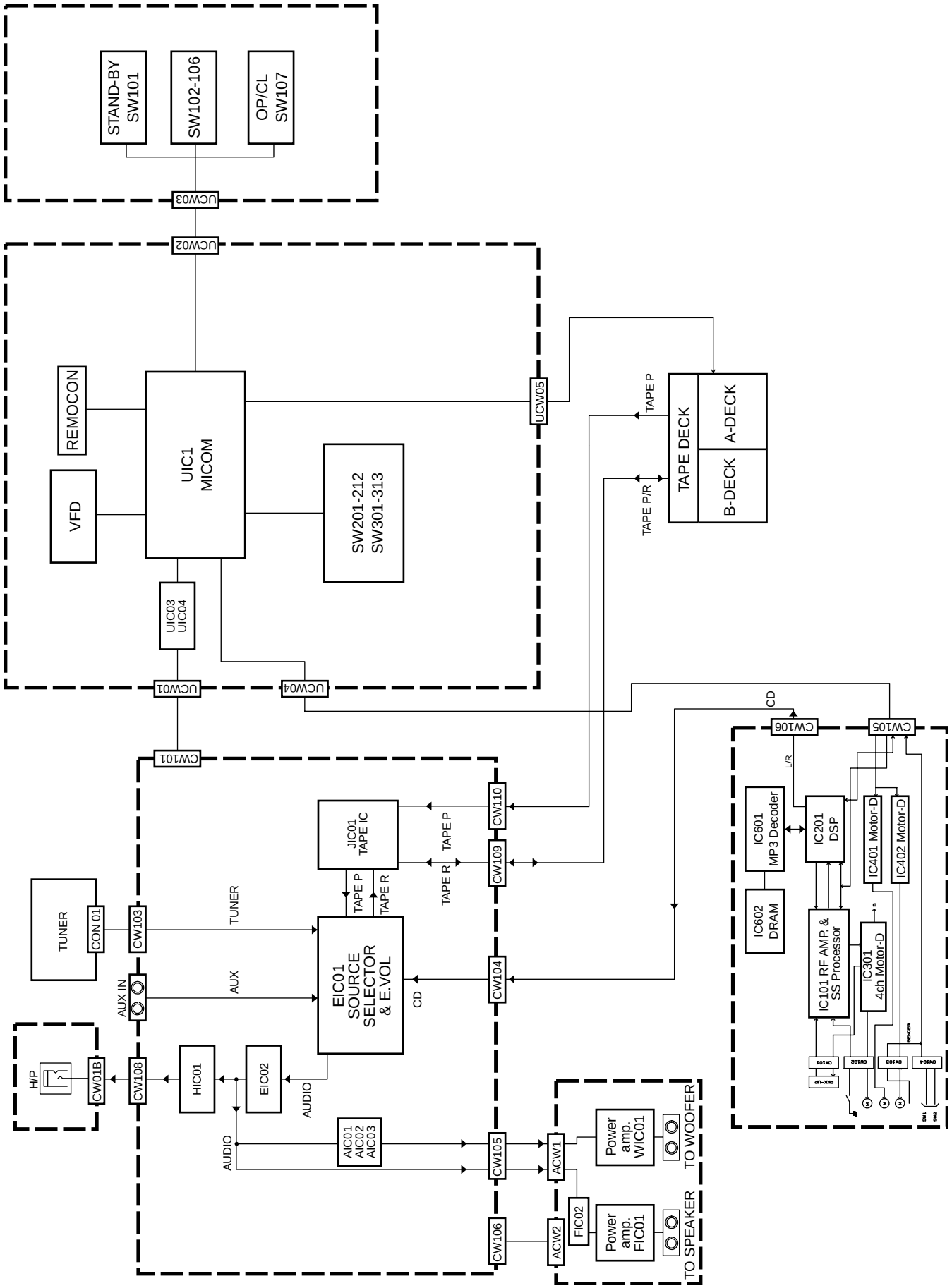
Pin No.	Pin Name	I/O	Function
1	VSS	-	Ground
2	/RESET	I	Reset pin
3	CLK	I	Clock input pin
4	LATCH	I	Latch input pin
5-12	P15~P8	I/O	Parallel data I/O pins
13	LATCHO	O	Latch output pin
14	CLKO	O	Clock output pin
15,25	DO1, DO2	O	Serial data output pins
26,17	DI1, DI2	I	Serial data input pins
17-24	P7~P0	O	Parallel data output pin
27	PULLUP	I	P8 to P15 control pin for internal pull-up resistor
			When P8 to P15 are in the output state, the PULLUP pin must be connected to VDD.
			When P8 to P15 are in the input state, the PULLUP pin must be connected to VSS.
28	VDD	-	Power supply pin

< MEMO >

In regard with component parts appearing on the silk-screen printed side (parts side) of the PWB diagrams, the parts that are printed over with black such as the resistor ( ), diode ( ) and ICP ( ) or identified by the "⚠" mark nearby are critical for safety.

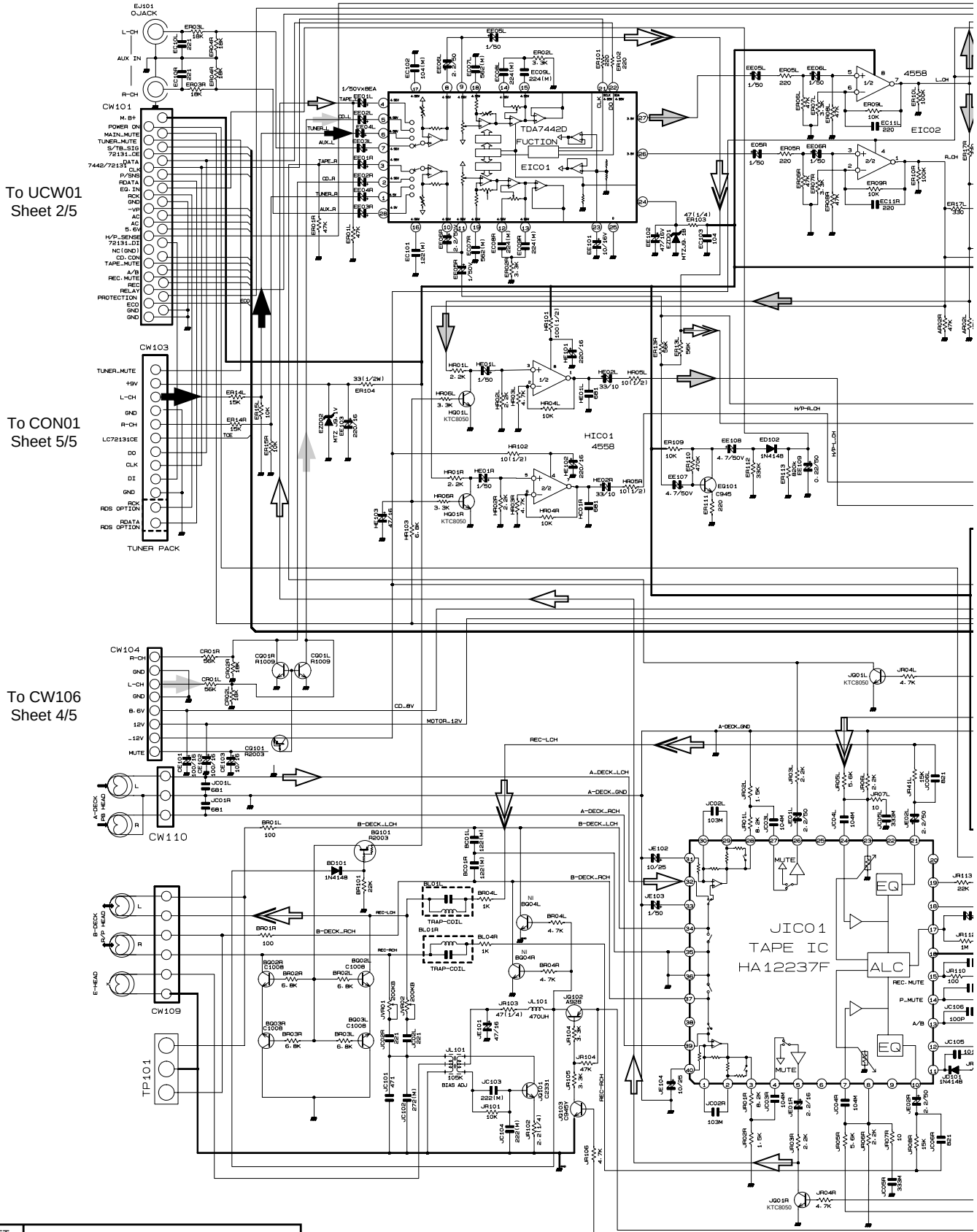
(This regulation does not correspond to J and C version.)

Block diagram



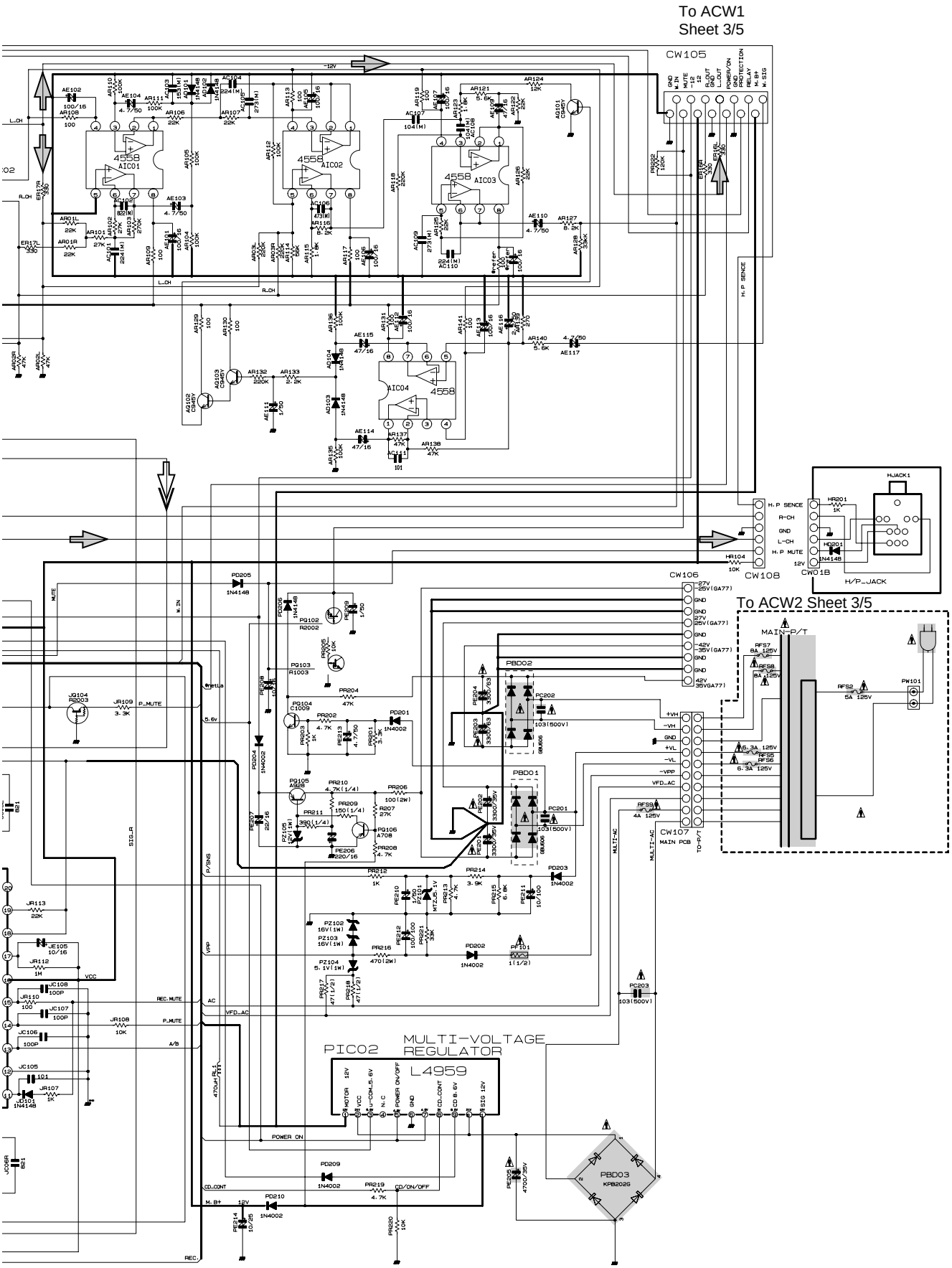
Standard schematic diagrams

■ Main section



SHEET NUMBER	CIRCUIT DESCRIPTION
1/5	Main
2/5	FL display & System control
3/5	Amp.
4/5	CD
5/5	Tuner

MX-GA77 JUS MAIN



ɲnal ⇨ TAPE P.B. signal

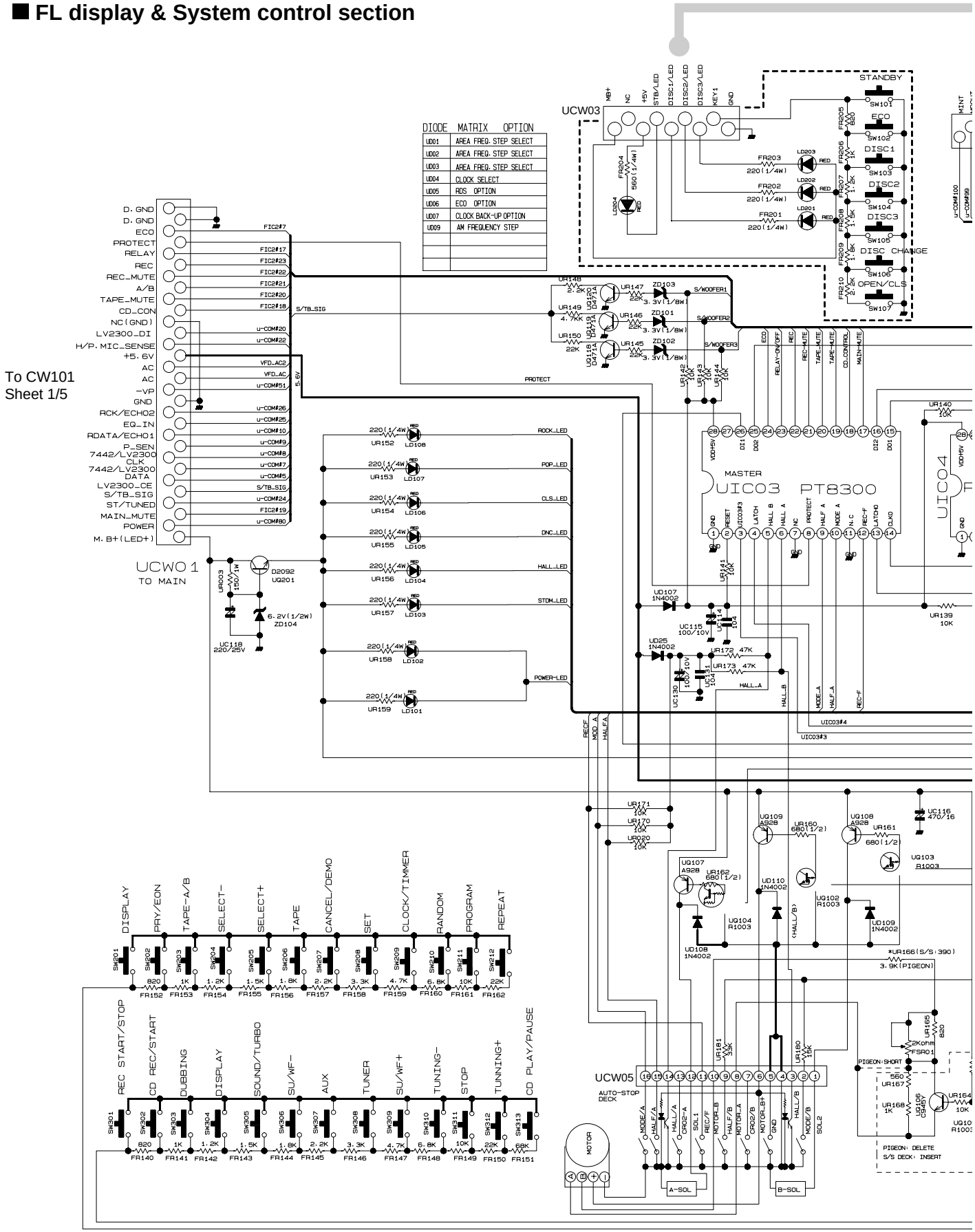
⇨⇨ TAPE REC. signal

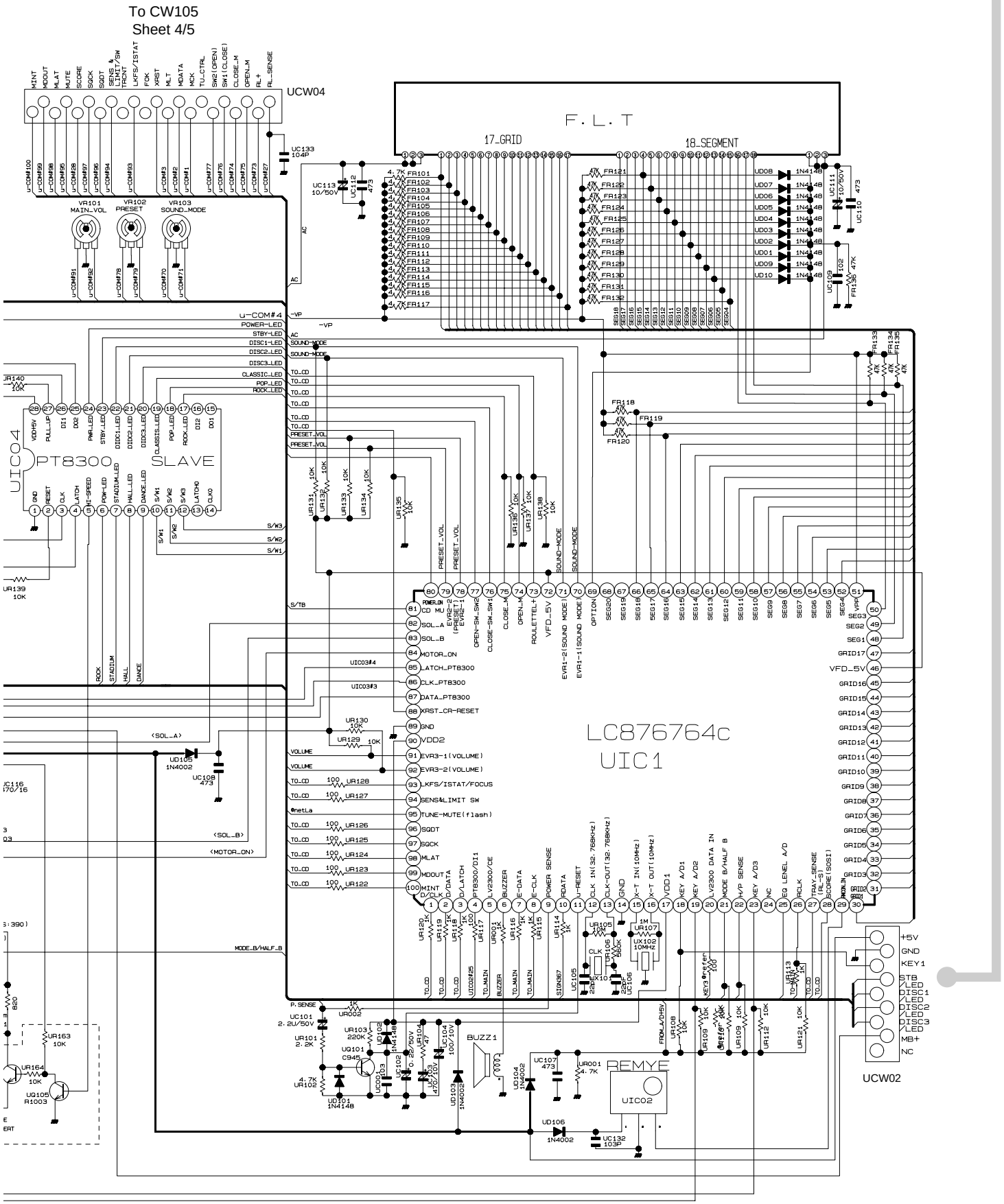
⚠ Parts are safety assurance parts. When replacing those parts, make sure to use the specified parts.

SHEET 1/5

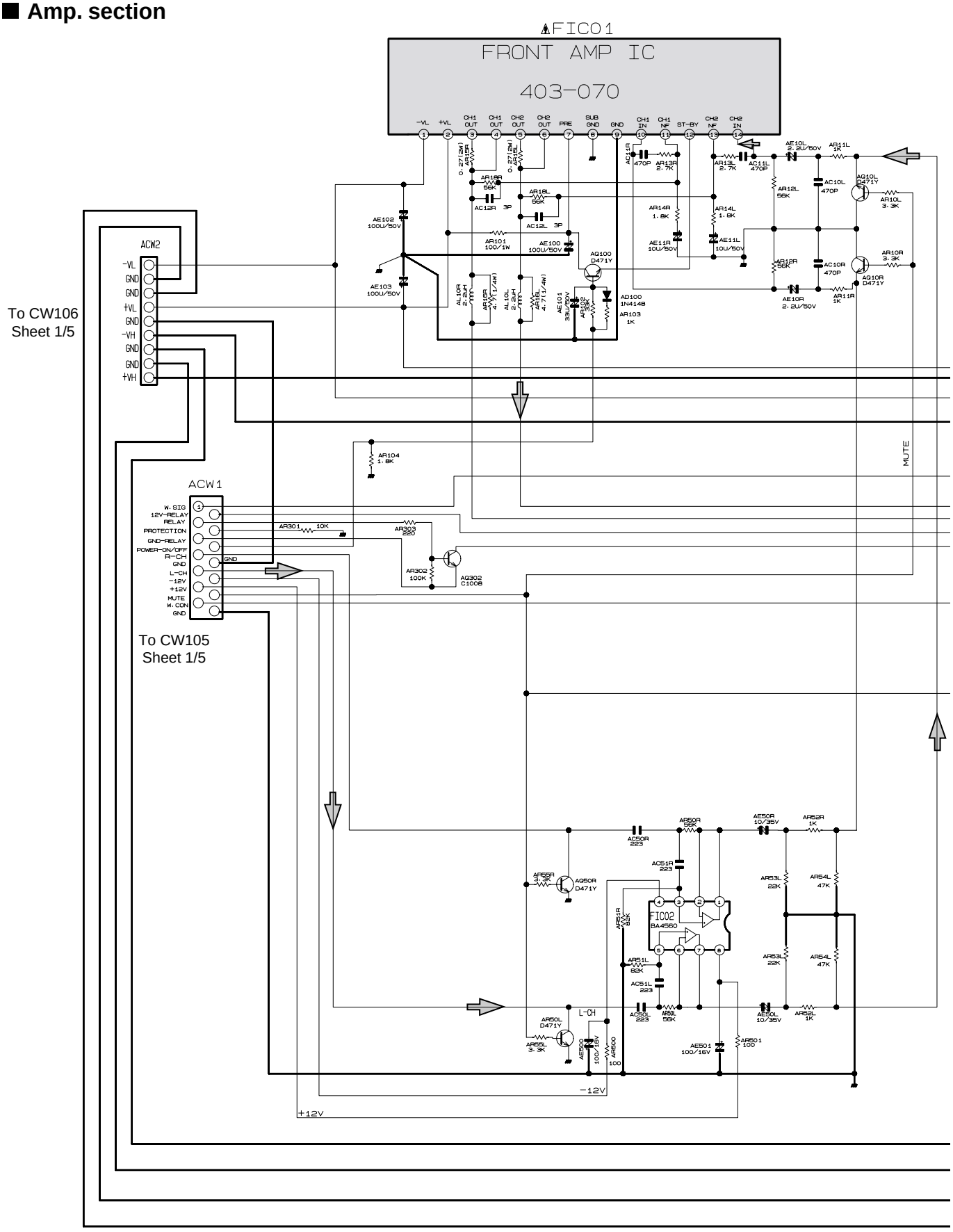
E F G

■ FL display & System control section

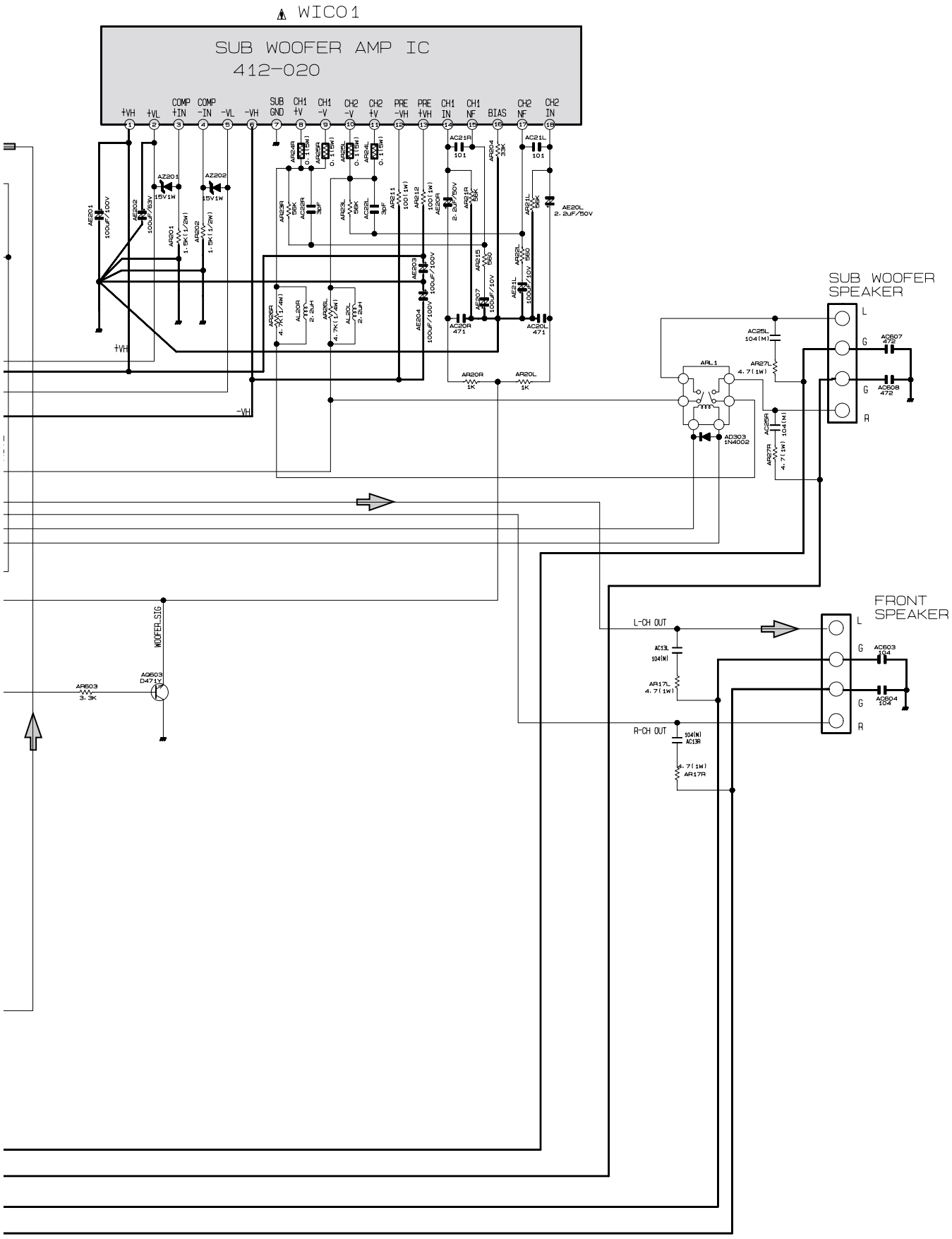



To CW105
Sheet 4/5
UCW04
F. L. T
17_GRID
18_SEGMENT
VR101 MAIN_VOL
VR102 PRESET
VR103 SOUND_MODE
UIC04
PT8300
SLAVE
LC876764c
UIC1
UCW02
UICO2
REMYE
BUZZ1
POWER_LED
STBY_LED
DISC1_LED
DISC2_LED
DISC3_LED
CLASSIC_LED
POP_LED
ROCK_LED
PRESET_VOL
SOUND_MODE
VOLUME
MODE_B/HALF_B
+5V
GND
KEY1
STB
DISC1 LED
DISC2 LED
DISC3 LED
MB+
NC

■ Amp. section



MX-GA77 JUS amp.



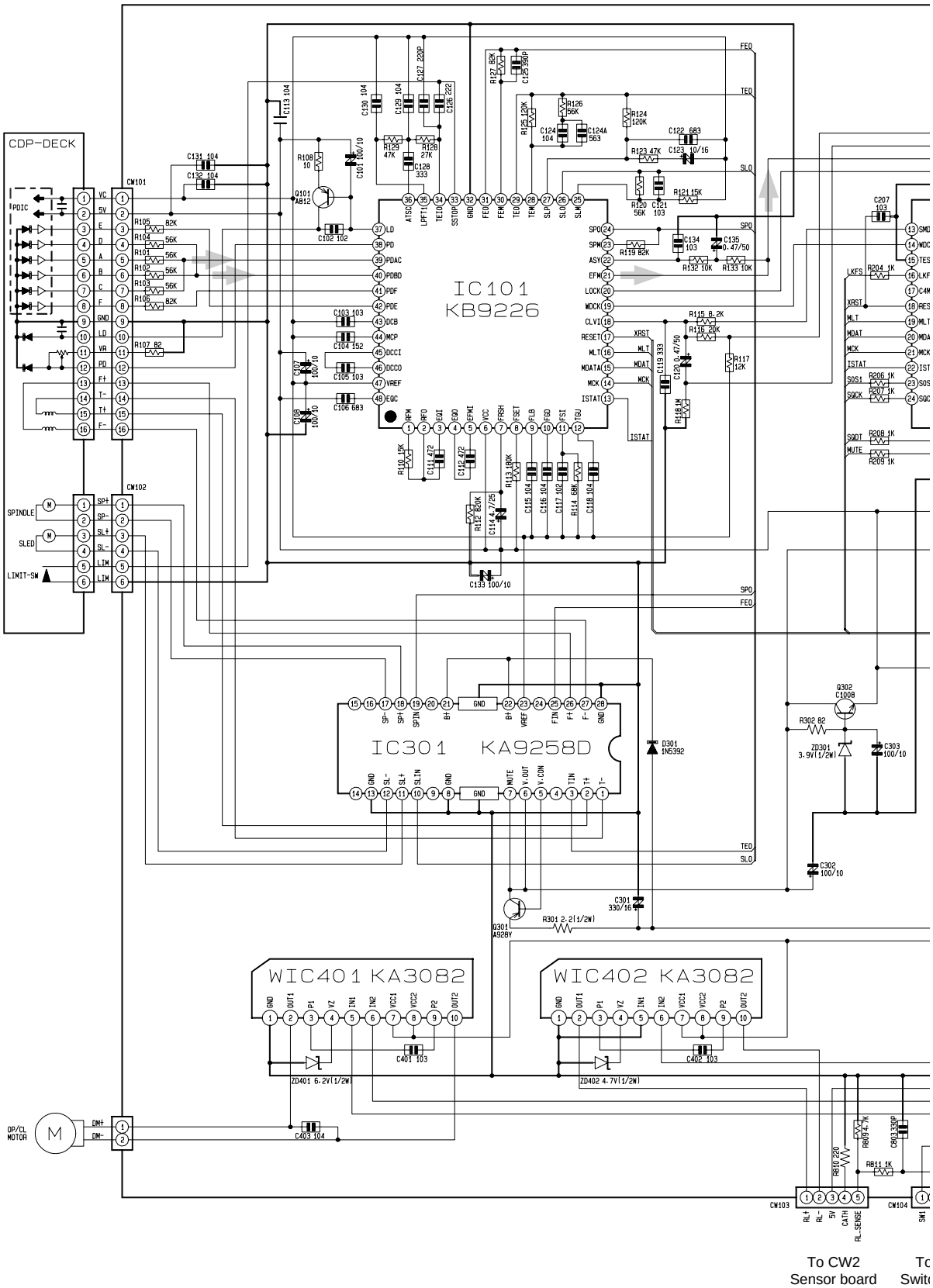
⚠ Parts are safety assurance parts. When replacing those parts, make sure to use the specified parts.

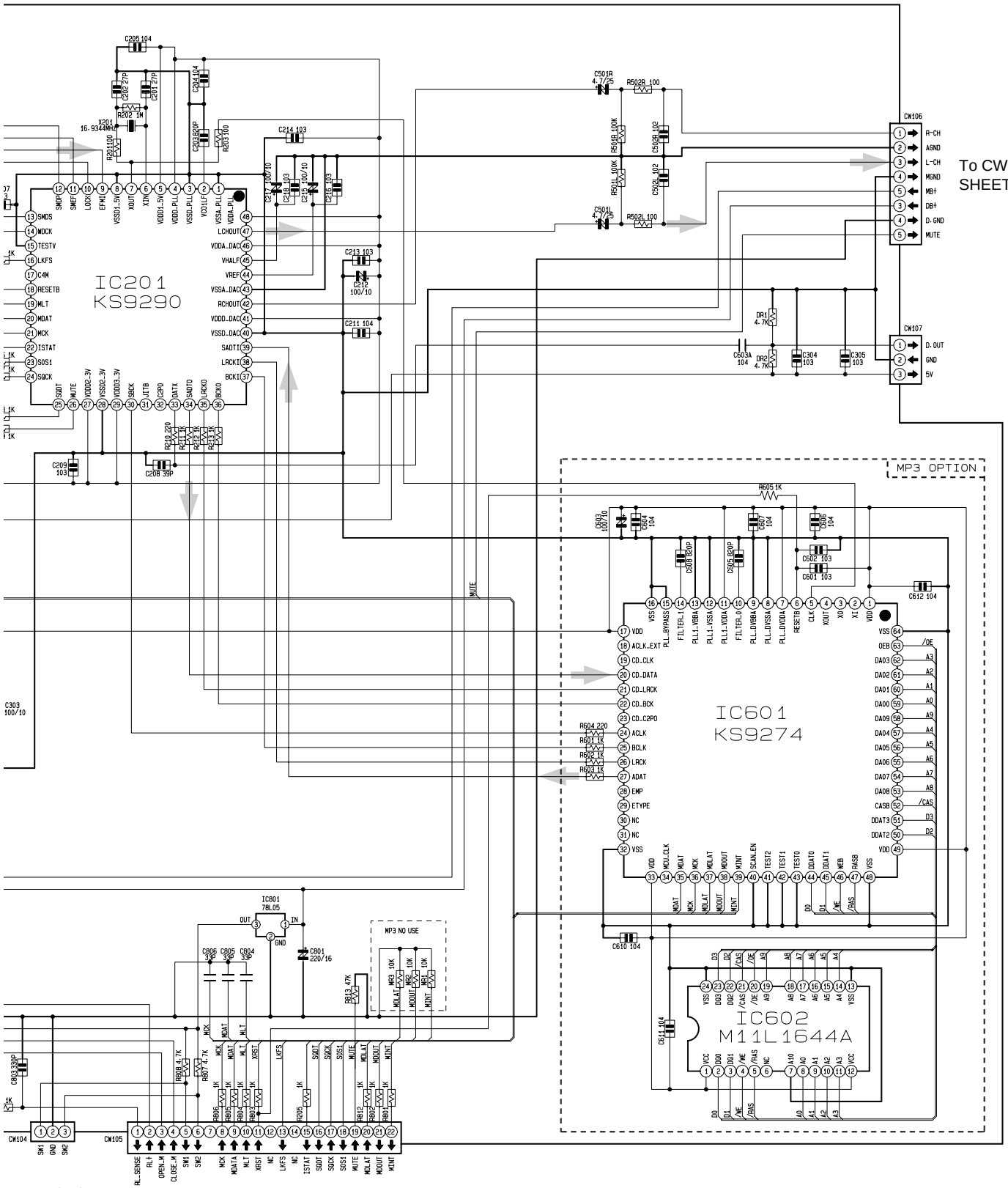
MAIN signal

SHEET 3/5

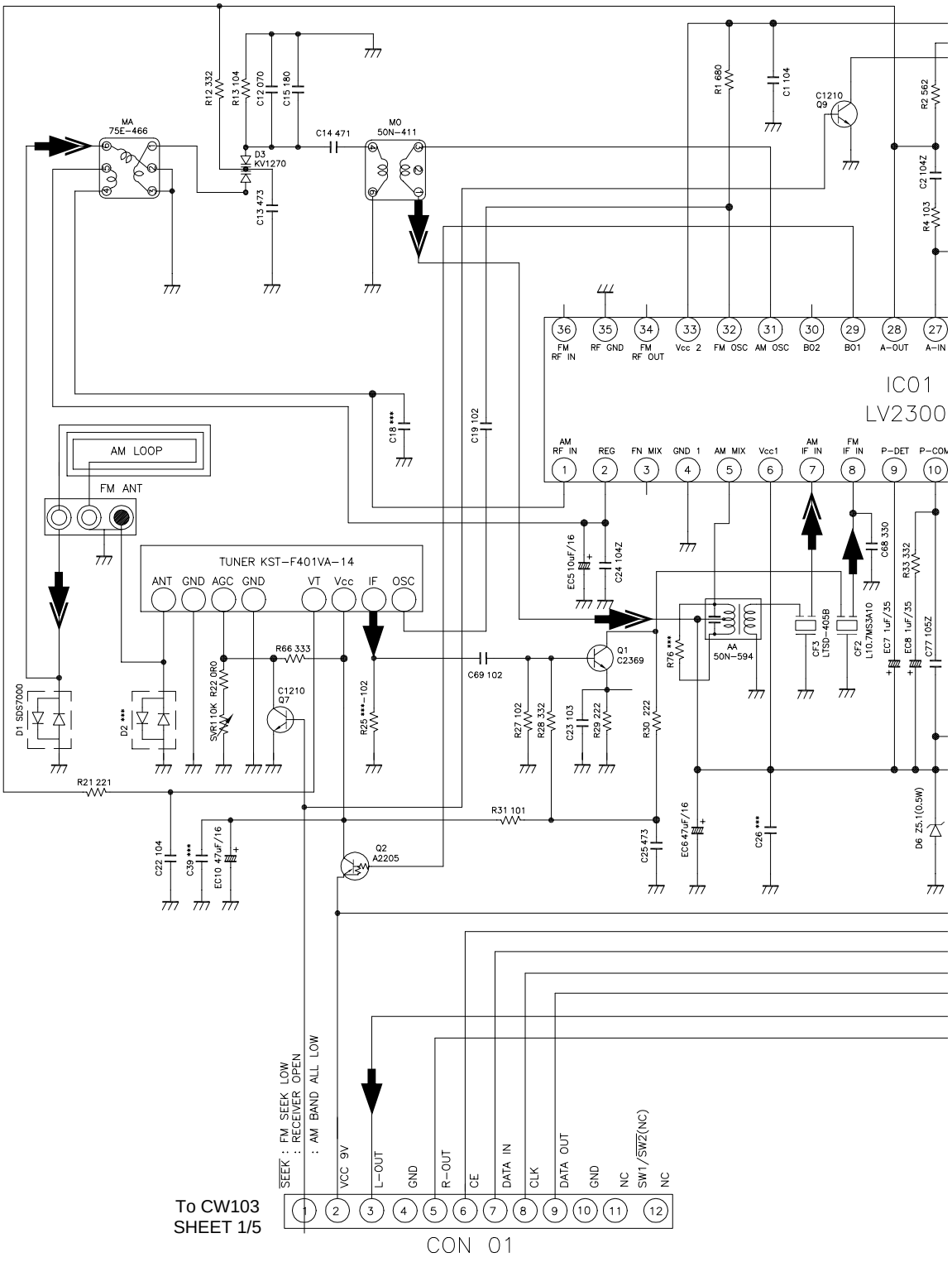
E F G

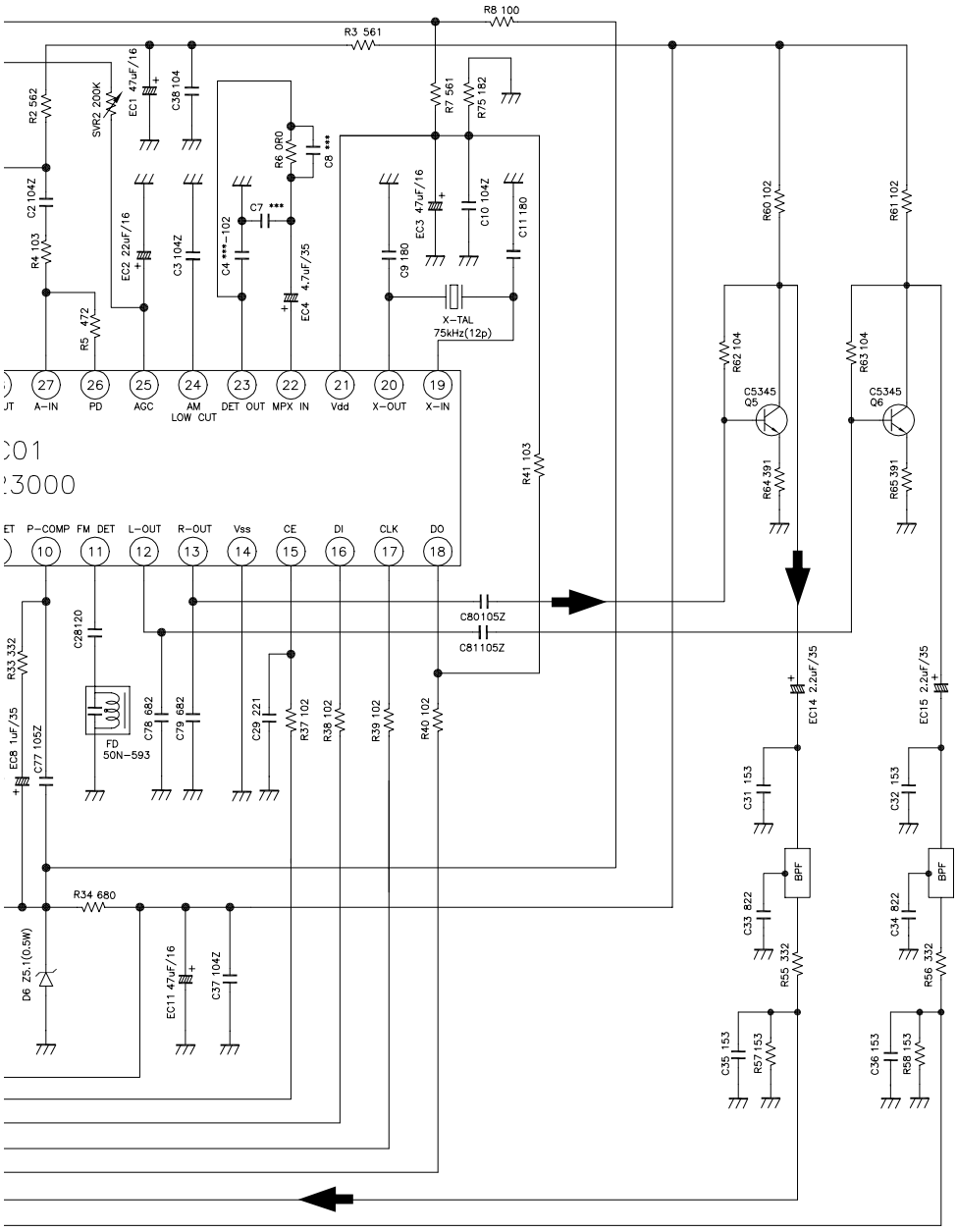
■ CD section


CDP-DECK
IC101
KB9226
IC301 KA9258D
WIC401 KA3082
WIC402 KA3082
CW101
CW102
CW103
CW104
PDIC
SPINDLE
SLED
LIMIT-SW
OP/CL MOTOR
To CW2
Sensor board
To
Switc


IC201
KS9290
IC601
KS9274
IC602
M11L1644A
IC801
78L05
MP3 OPTION
MP3 NO USE
CW106
CW107
CW104
CW105
R-CH
AGND
L-CH
MGND
MB+
DB+
D.GND
MUTE
D.OUT
GND
5V
To CW104
SHEET 1/5
To CW3
Switch board
To UCW04
SHEET 2/5
CD signal

■ Tuner section





FM/ TUNER signal

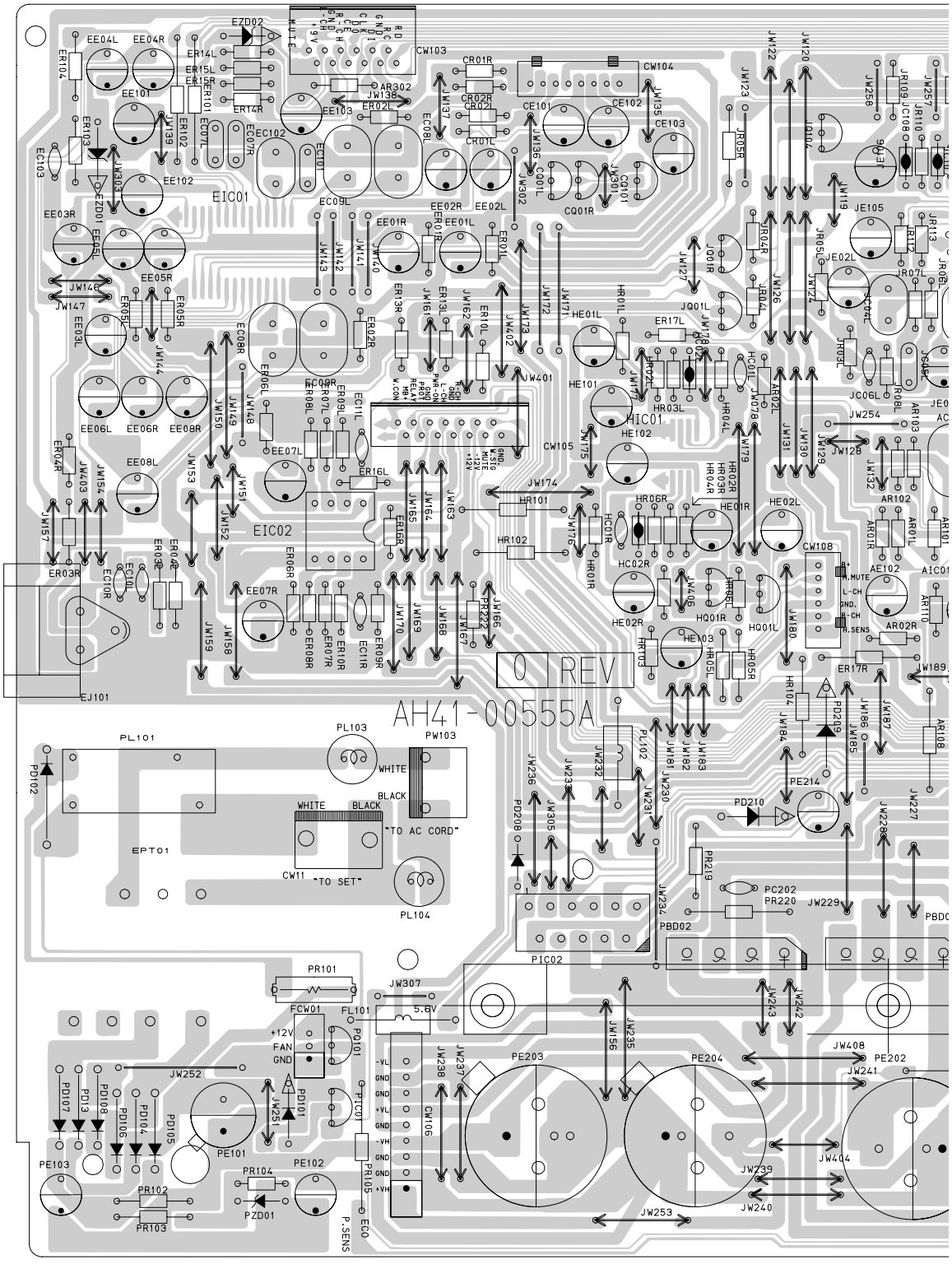
AM signal

SHEET 5/5

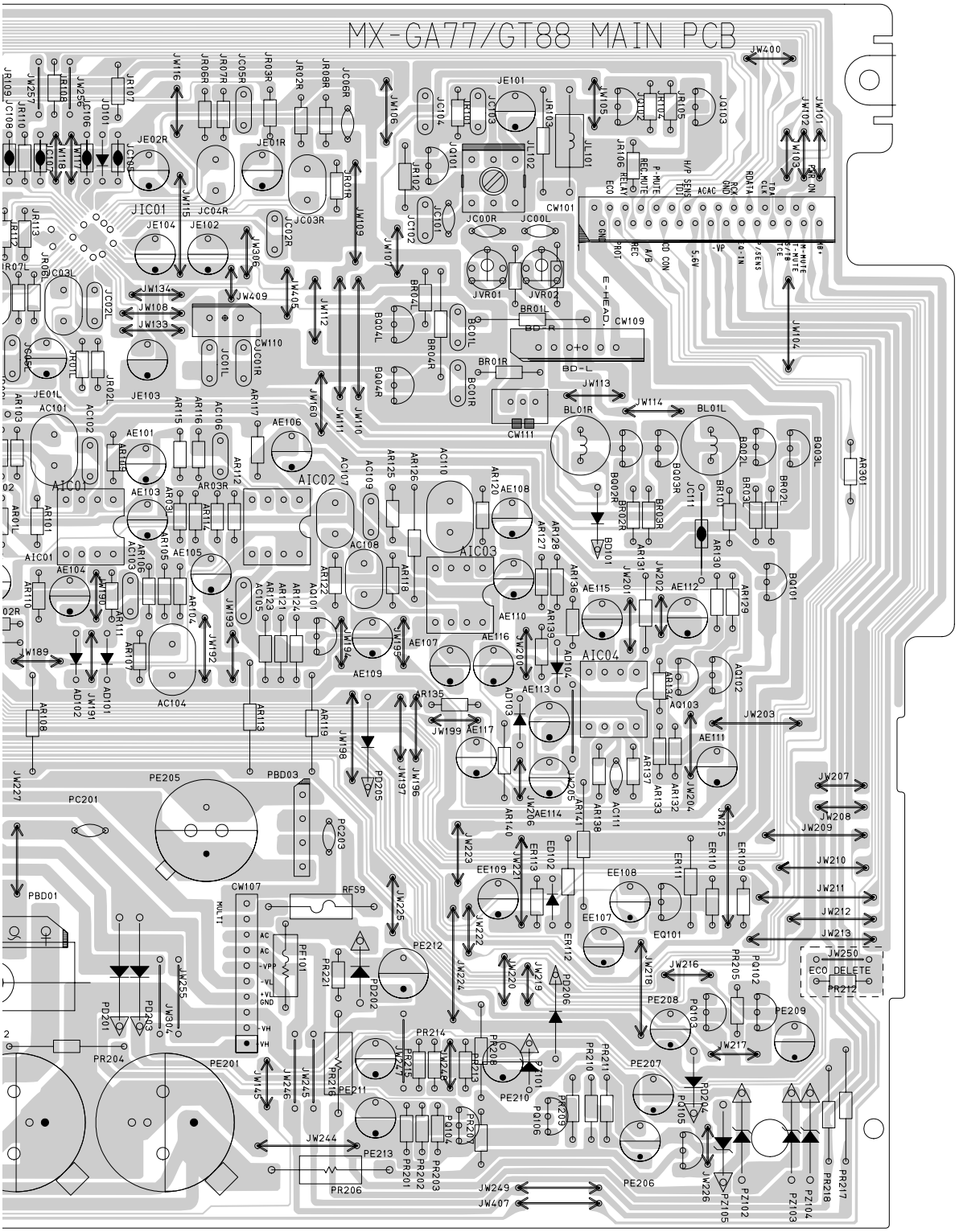
E F G

Printed circuit boards

■ Main board

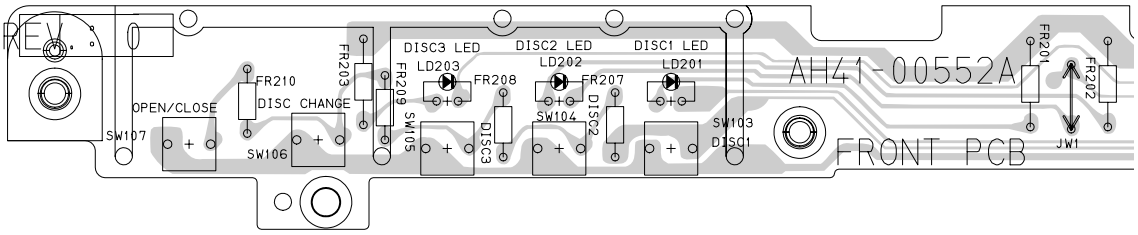


Main board

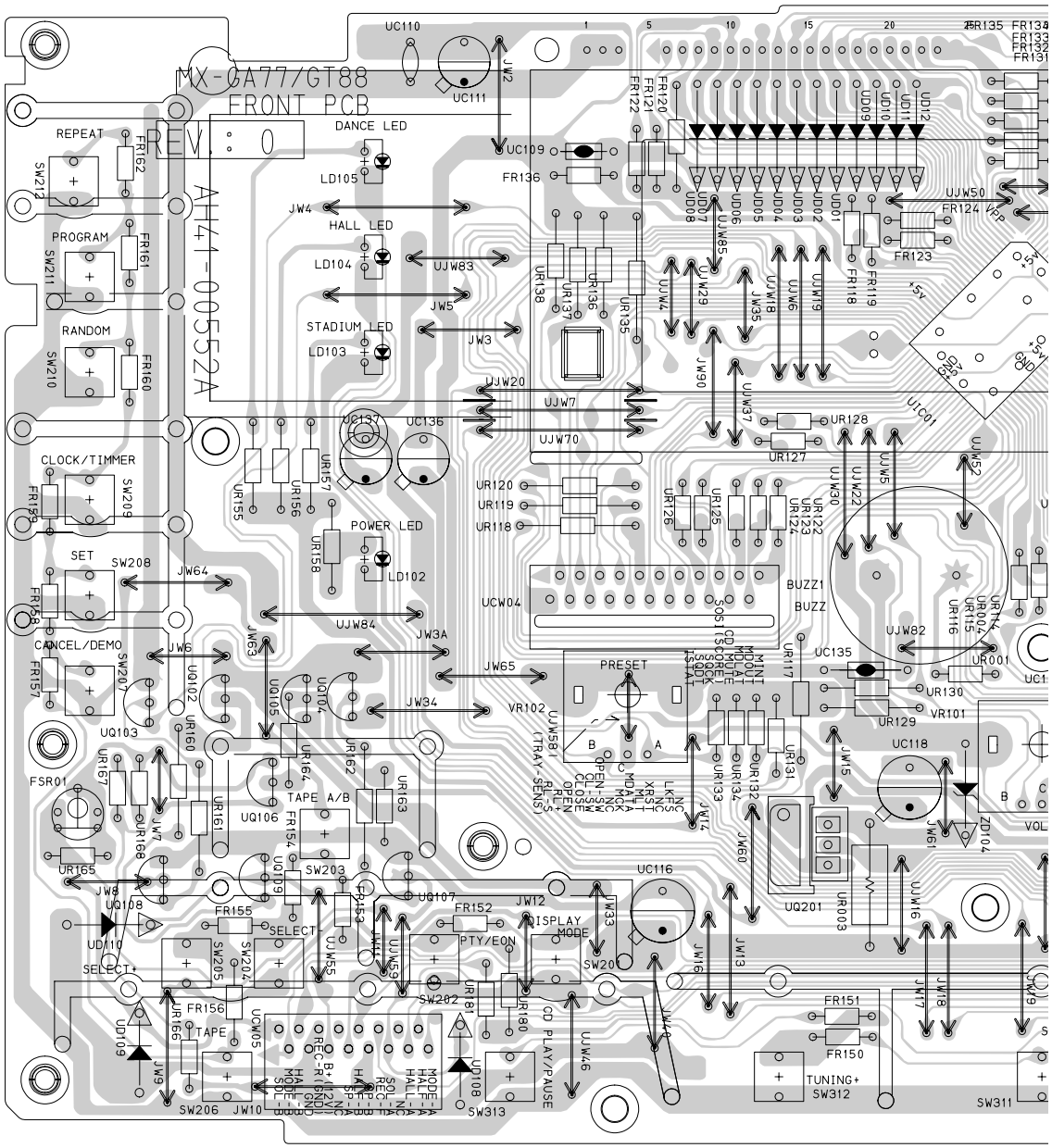


■ Front board

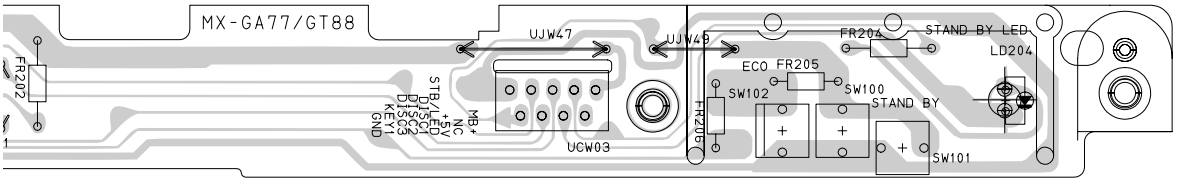
CD switch boa



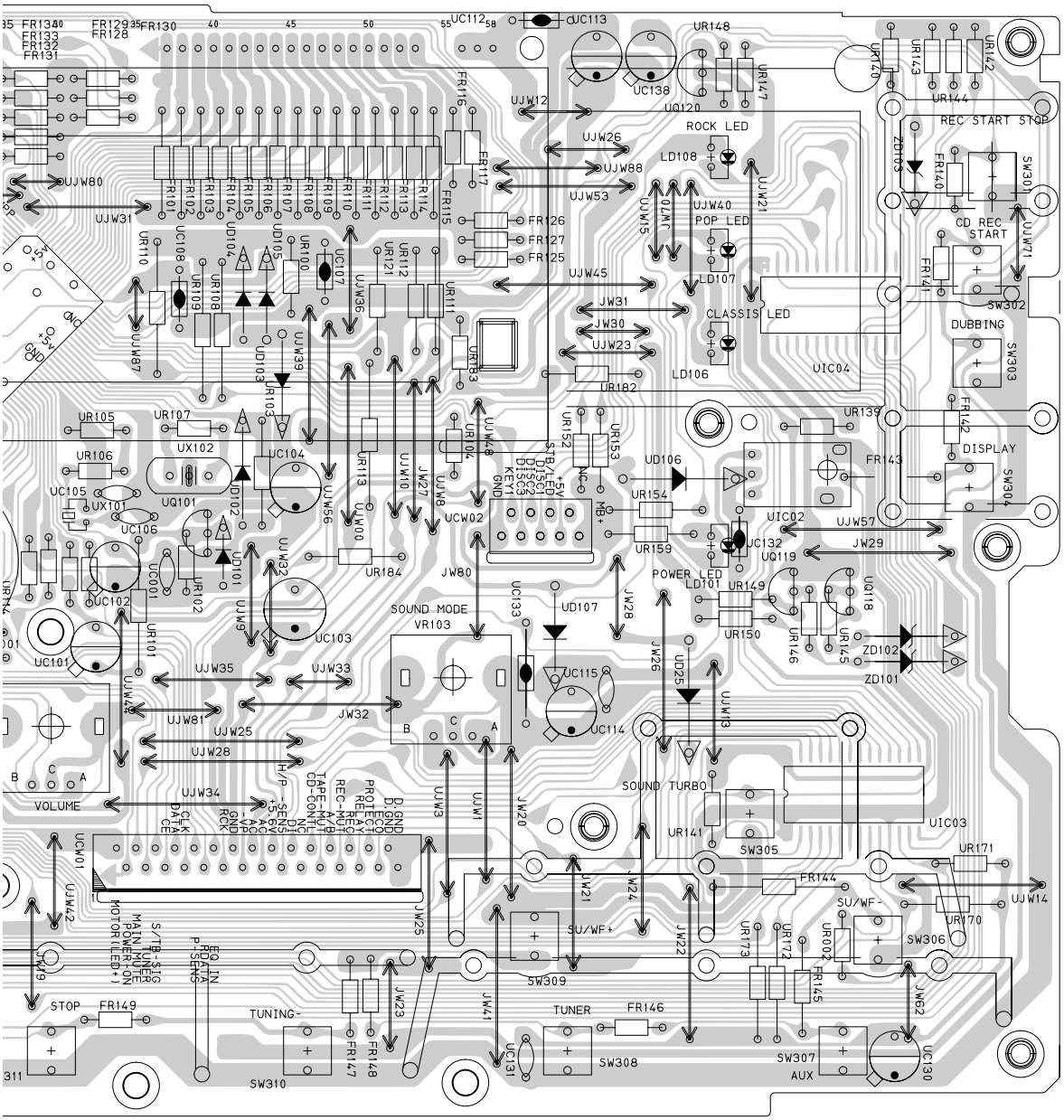
Front board



ı board


MX-GA77/GT88
UJW47
UJW49
FR204
STAND BY LED
LD204
ECO FR205
SW102
SW100
STAND BY
SW101
FR206
UCW03
FR202
STB/LED
DISC1
DISC2
DISC3
KEY1
GND
+5V
NC
MB+

oard


UJW12
UJW26
UJW88
UJW53
UJW45
UJW31
UJW80
UJW87
UJW39
UJW36
UJW56
UJW00
UJW32
UJW9
UJW35
UJW33
UJW42
UJW81
UJW25
UJW28
UJW34
UJW3
UJW1
UJW42
UJW19
UJW62
UJW14
UJW71
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UJW15
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UJW40
UJW48
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UJW8
UJW13
JW31
JW30
JW23
JW27
JW80
JW32
JW28
JW26
JW25
JW24
JW22
JW21
JW20
JW41
JW33
JW29
JW62
ROCK LED
LD108
POP LED
LD107
CLASSIS LED
LD106
POWER LED
LD101
REC START STOP
CD REC START
DUBBING
DISPLAY
SOUND MODE
VR103
SOUND TURBO
VOLUME
STOP
TUNING-
TUNER
SU/WF+
SU/WF-
AUX
UCW01
UCW02
UCW03
UIC02
UIC03
UIC04
UQ101
UQ118
UQ119
UQ120
UQ132
UX101
UX102
UD101
UD102
UD103
UD104
UD105
UD106
UD107
UD25
ZD101
ZD102
ZD103
SW301
SW302
SW303
SW304
SW305
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SW308
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SW310
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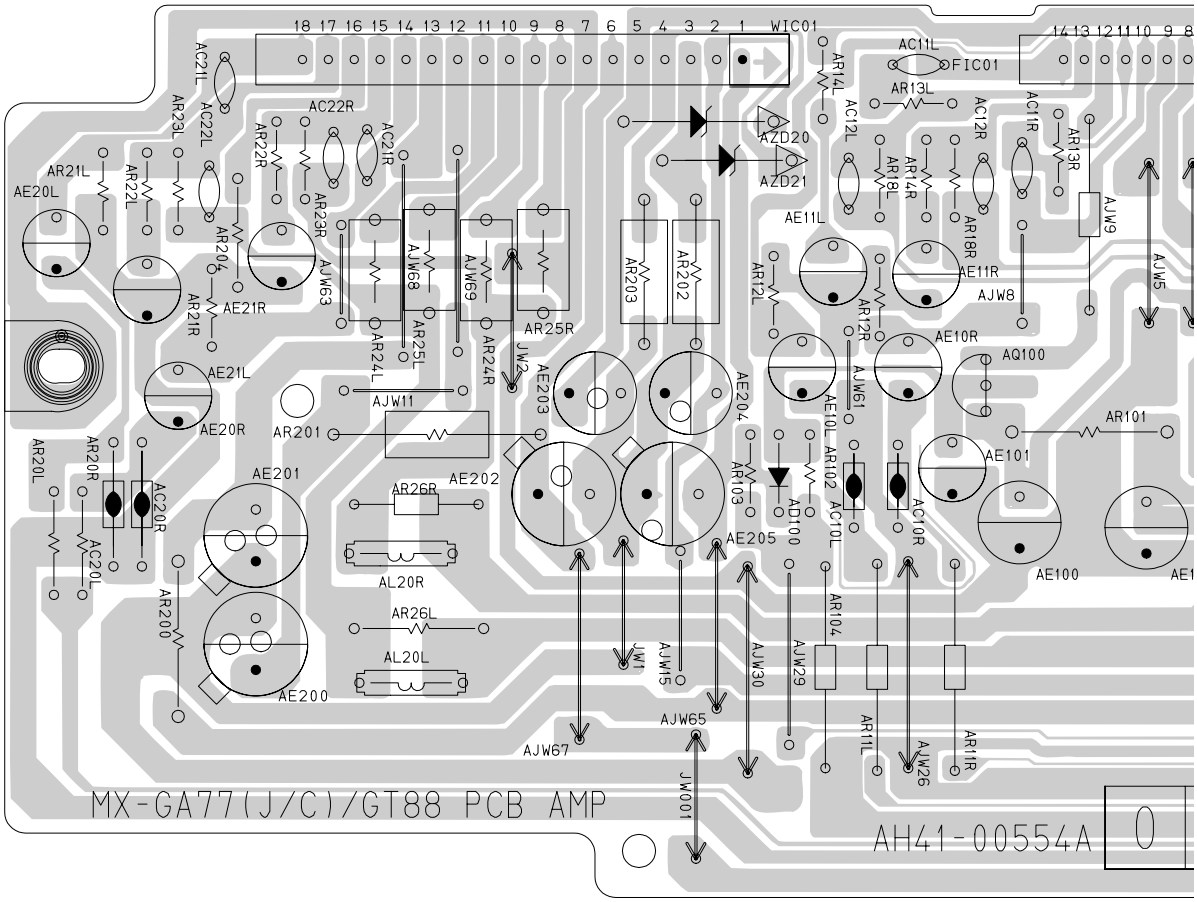
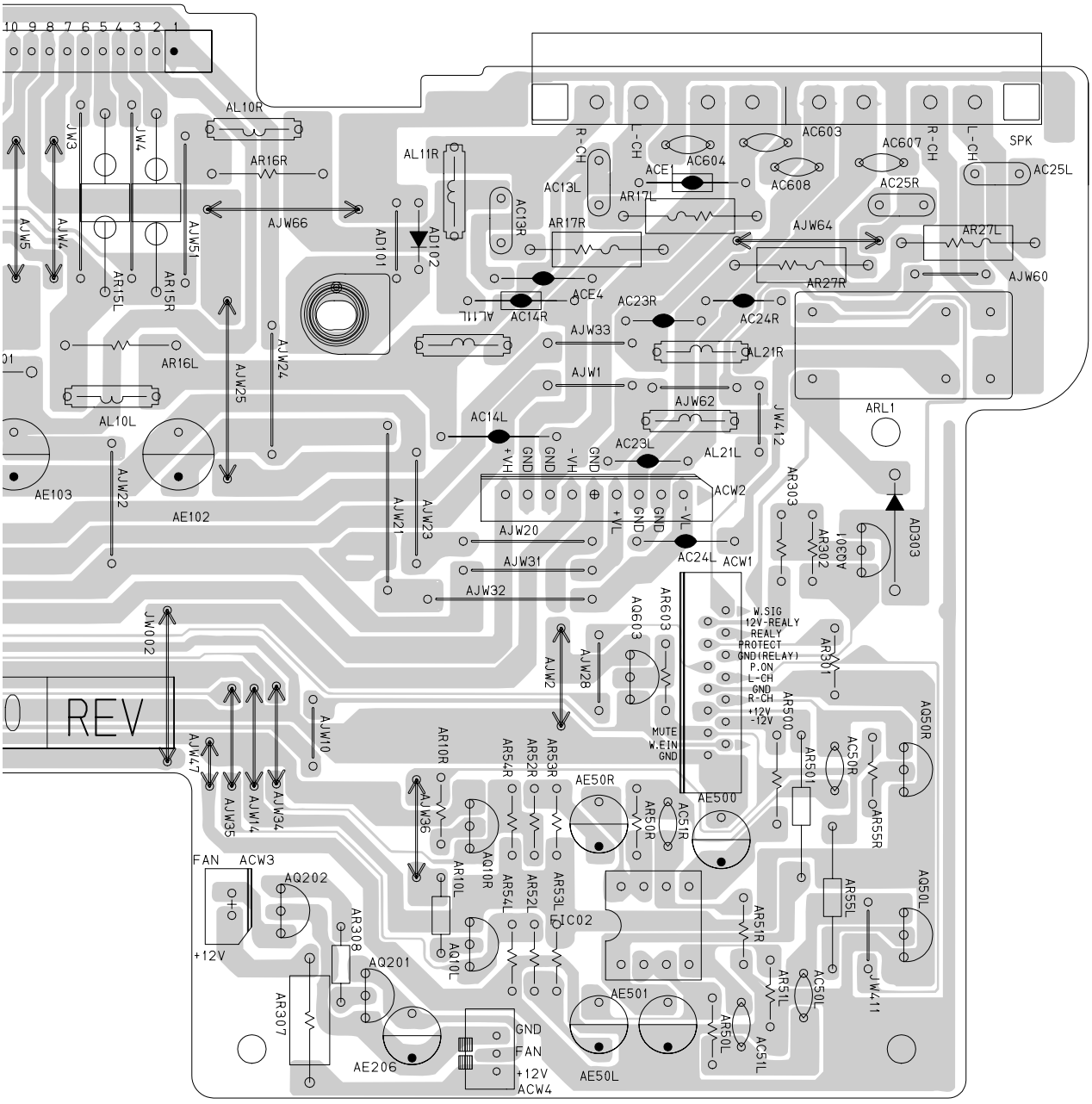
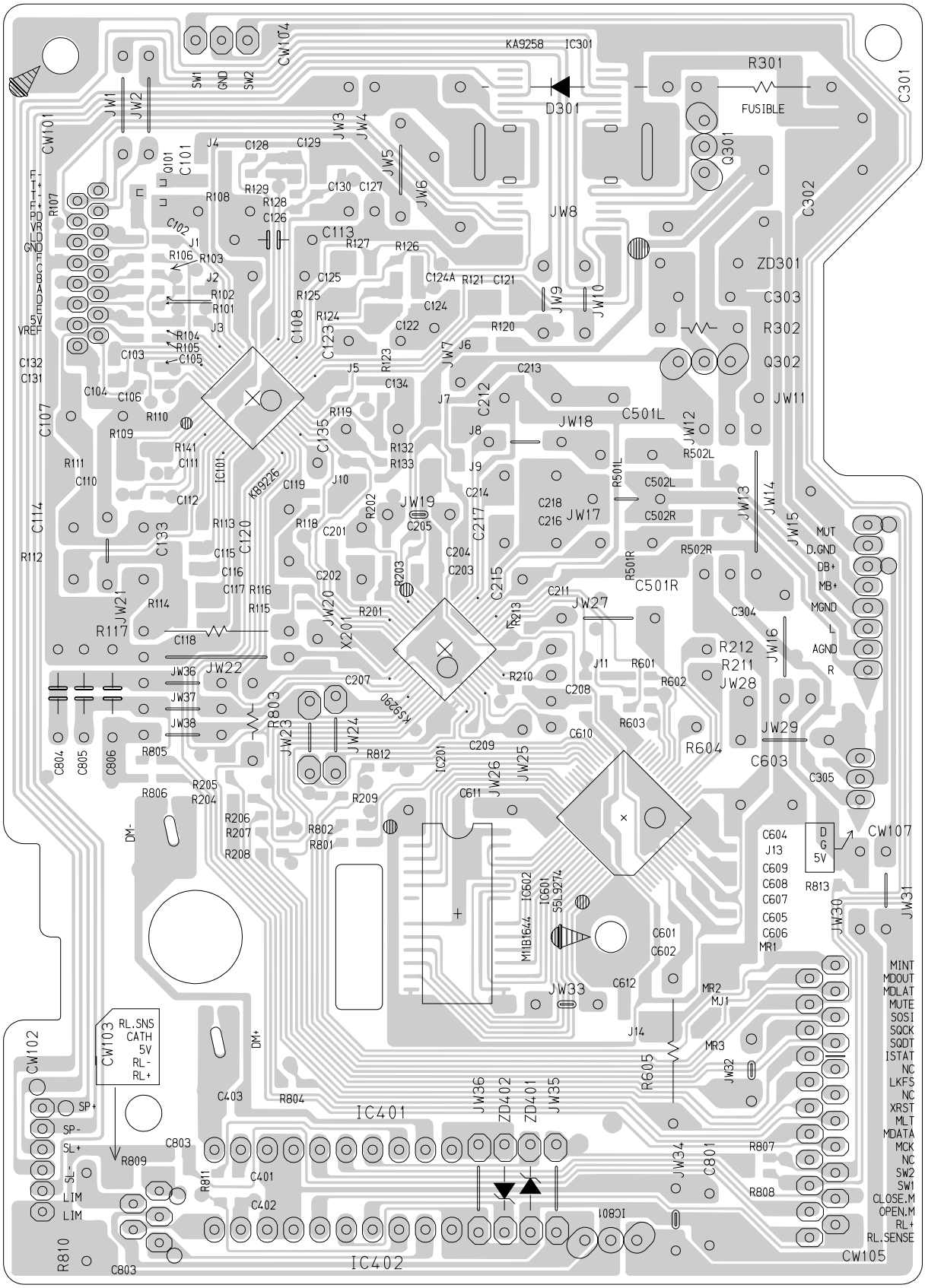
UR146
UR147
UR148
UR149
UR150
UR152
UR153
UR154
UR159
UR170
UR171
UR172
UR173
UR182
UR184
UC
+5V
GND
STB/LED
DISC1
DISC2
DISC3
KEY1
GND
+5V
NC
MB+
S/TB-SIG
TUNER MUTE
MAIN POWER-ON
MOTOR(LED+)
PROTECT
REC-MUTE
TAPE-MUTE
CD-CONTL
REC-RELAY
PROTECT
D GND
D GND
+5.6V
-SENS
+5.6V
AC
AC
NC
CLK
DATA
CE
GND
RCK
H/P -SENS
A
B
C

■ Amp. board


MX-GA77(J/C)/GT88 PCB AMP
AH41-00554A
WIC01
FIC01
AZD20
AZD21
AE100
AE101
AE200
AE201
AE202
AE203
AE204
AE205
AQ100
AR101
AR200
AR201
AR202
AR203
AR25R
AR26L
AR26R
AL20L
AL20R
AJW5
AJW8
AJW9
AJW11
AJW15
AJW26
AJW29
AJW30
AJW61
AJW63
AJW65
AJW67
AJW68
AJW69
JW1
JW2
JW001

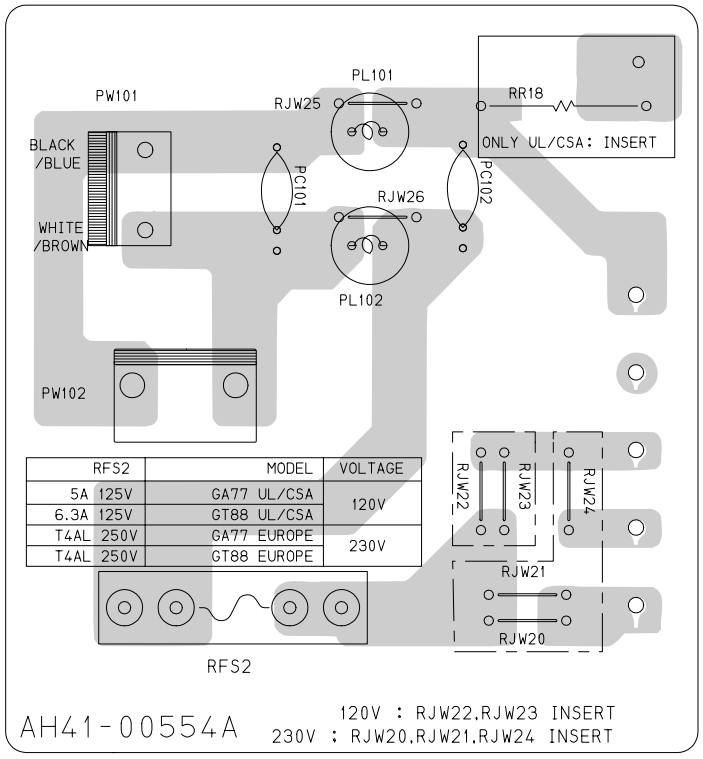

10 9 8 7 6 5 4 3 2 1
JW3
JW4
AJW5
AJW4
AJW51
AR15L
AR15R
AL10R
AR16R
AJW66
AD101
AD102
AL11R
AC13R
AC13L
R-CH
L-CH
AC604
ACE1
AC603
AC608
AC607
R-CH
L-CH
SPK
AC25L
AC25R
AR17L
AR17R
AJW64
AR27L
AR27R
AJW60
ACE4
AC14R
AL11L
AC23R
AC24R
AJW33
AL21R
AR16L
AJW24
AJW25
AJW1
AJW62
AL10L
AC14L
AC23L
AL21L
JW412
ARL1
AE103
AE102
AJW22
AJW21
AJW23
+VH
GND
GND
-VH
GND
ACW2
AJW20
+VL
GND
GND
-VL
AC24L
ACW1
AJW31
AJW32
AR303
AR302
AD301
AD303
JW002
REV
AJW47
AJW35
AJW14
AJW34
AJW10
AJW2
AJW2B
AQG03
AR603
W.SIG
12V-REALY
REALY
PROTECT
GND(RELAY)
P.ON
L-CH
GND
R-CH
+12V
-12V
AR301
AR500
AR501
AC50R
AQ50R
AR55R
AR10R
AJW36
AR54R
AR52R
AR53R
AE50R
AR50R
AC51R
MUTE
W.EIN
GND
AE500
FAN
ACW3
AQ202
+12V
AR308
AQ201
AR307
AR10L
AQ10R
AQ10L
AR54L
AR52L
AR53L
LIC02
AR51R
AR55L
AQ50L
AC50L
AR51L
AC51L
JW411
AE501
AE50L
AR50L
AE206
GND
FAN
+12V
ACW4

■ CD servo board

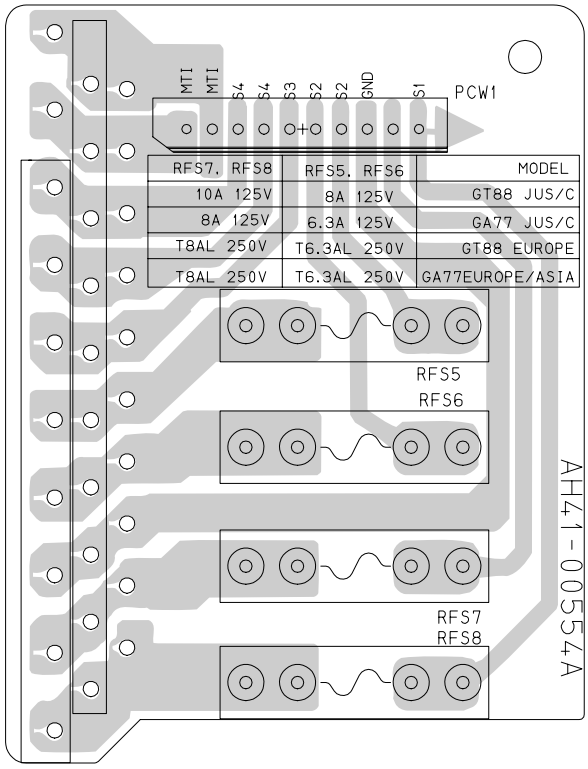


■ Power supply board

Trans. board



Fuse board



PARTS LIST

[MX-GA77]

* All printed circuit boards and its assemblies are not available as service parts.

Area suffix

J ---------- U.S.A.
C ---------- Canada

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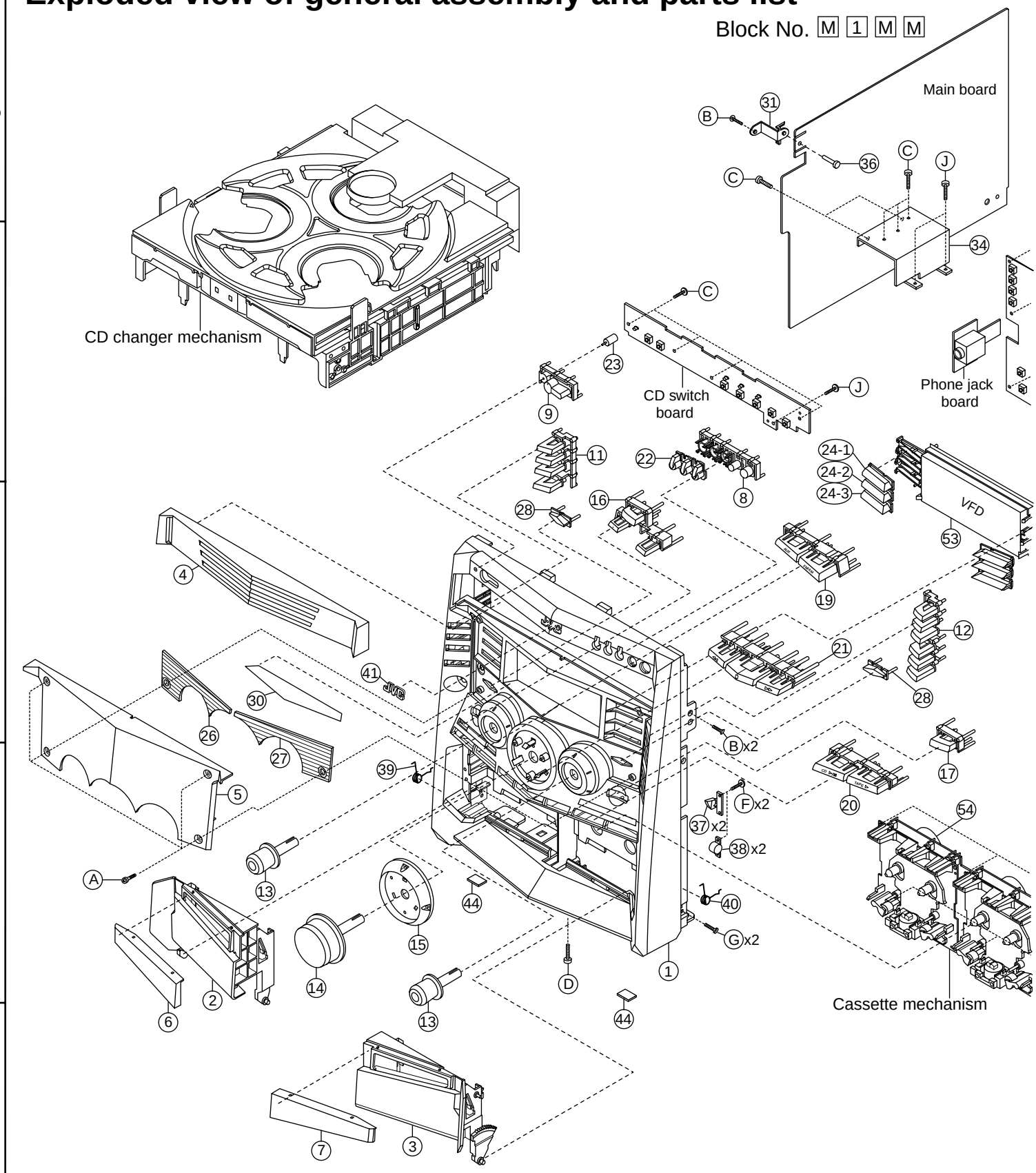
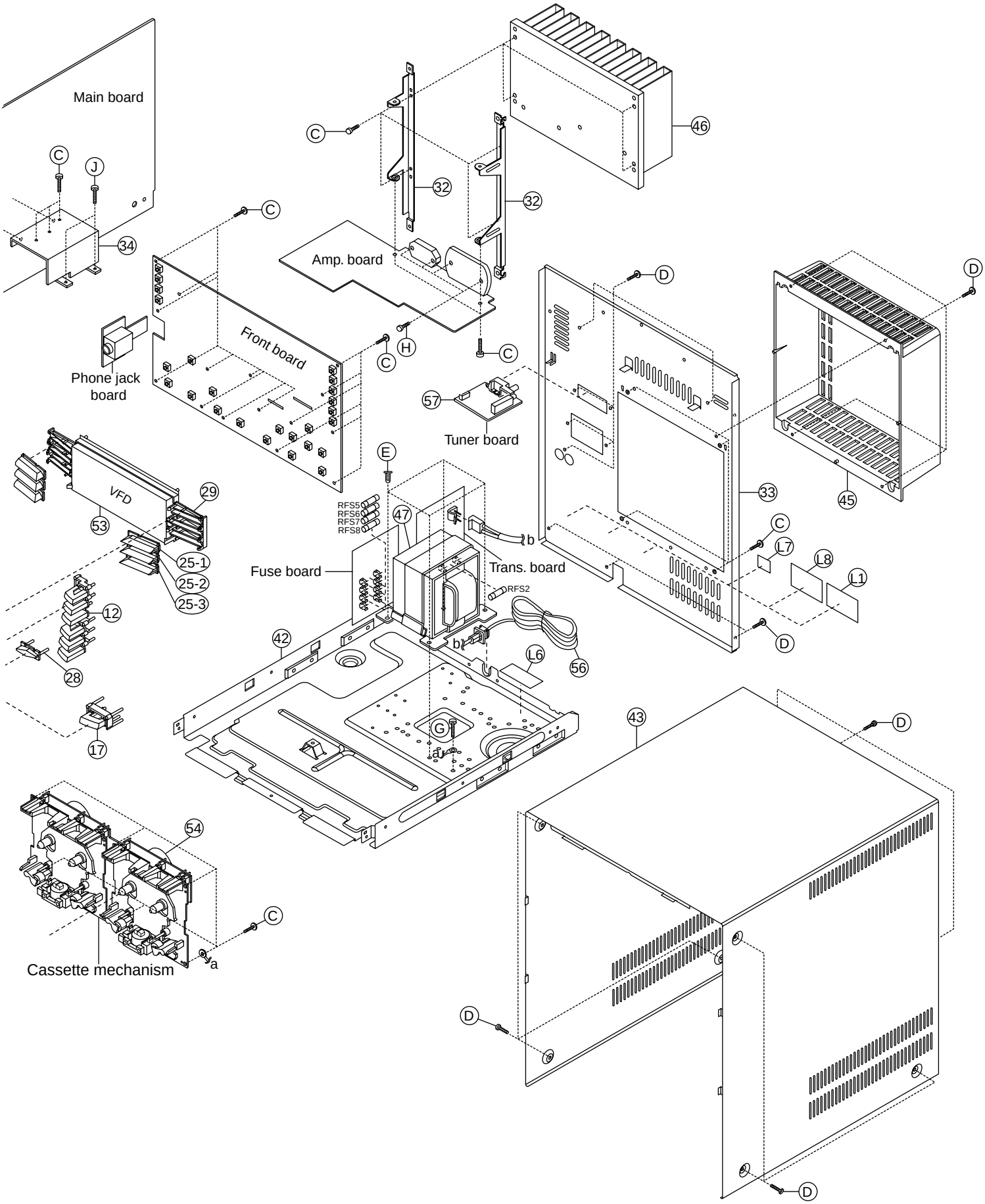
Exploded view of general assembly and parts list

Block No. M 1 M M




Main board
C
J
34
C
32
32
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Amp. board
C
Front board
Phone jack board
C
H
C
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Tuner board
D
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45
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L7
L8
L1
D
VFD
29
53
25-1
25-2
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12
28
17
E
47
RFS5
RFS6
RFS7
RFS8
b
Fuse board
Trans. board
RFS2
b
42
L6
56
G
43
D
D
D
54
C
a
Cassette mechanism

D | E | F | G

■ Parts list (General assembly)

Block No. M1MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	A	AH64-01106G	SCREW	4	M3X10 SILVER	
	B	6002-000126	SCREW	3	FH M3X10 BLK	
	C	6003-000276	SCREW	40	BH M3X10 YEL	
	D	6003-000275	SCREW	24	BH M3X10 BLACK	
	E	AH60-10107A	SCREW	4	M4X6 YEL	
	F	6003-000277	SCREW	4	BH M3X12 YEL	
	G	6002-000398	SCREW	3	BH M3X6 YEL	
	H	6003-001230	SCREW	4	BH M3X14 YEL	
	J	6003-000283	SCREW	3	BH M3X8 YEL	
	1	AH64-02252B	FRONT CABINET	1		J
		AH64-02252D	FRONT CABINET	1		C
	2	AH64-02253B	CASSETTE DOOR A	1		
	3	AH64-02254B	CASSETTE DOOR B	1		
	4	AH64-02255B	CD DOOR	1		
	5	AH64-02256D	WINDOW VFD	1		
	6	AH64-02257A	WINDOW DOOR A	1		
	7	AH64-02258A	WINDOW DOOR B	1		
	8	AH640-2259B	KNOB DISC	1		
	9	AH64-02260B	KNOB POWER	1		
	L1	AH68-01253A	RATING LABEL	1		J
		AH68-01253B	RATING LABEL	1		C
	L6	AH68-50252B	FUSE LABEL	1		
	L7	AH68-00331C	FCC LABEL	1		
	L8	AH68-00331D	HHS LABEL	1		J
	11	AH64-02262B	KNOB REC	1		
	12	AH64-02263B	KNOB REPEAT	1		
	13	AH64-02264B	KNOB SOUND	2		
	14	AH64-02265B	KNOB VOLUME	1		
	15	AH64-02266B	DECO RING	1		
	16	AH64-02267B	KNOB TURBO	1		
	17	AH64-02268B	KNOB TAPE	1		
	19	AH64-02270B	KNOB FUNCTION L	1		
	20	AH64-02271B	KNOB FUNCTION R	1		
	21	AH64-02272B	KNOB DECK	1		
	22	AH67-00200B	LENS DISC	1		
	23	AH67-00201A	LENS POWER	1		
	24-1	AH67-00202B	LENS-EQ L1	1	ROCK	
	24-2	AH67-00202C	LENS-EQ L2	1	POP	
	24-3	AH67-00202D	LENS-EQ L3	1	CLASSIC	
	25-1	AH67-00203B	LENS-EQ R1	1	DANCE	
	25-2	AH67-00203C	LENS-EQ R2	1	HALL	
	25-3	AH67-00203D	LENS-EQ R3	1	STADIUM	
	26	AH67-00204B	LENS INNER L	1		
	27	AH67-00205B	LENS INNER R	1		
	28	AH67-00208A	LENS MILKY	2		
	29	AH61-01258A	VFD HOLDER	1		
	30	AH63-00507A	SHEET MIRROR	1		
	31	AH61-01261A	PCB BRAKET	1		

■ Parts list (General assembly)

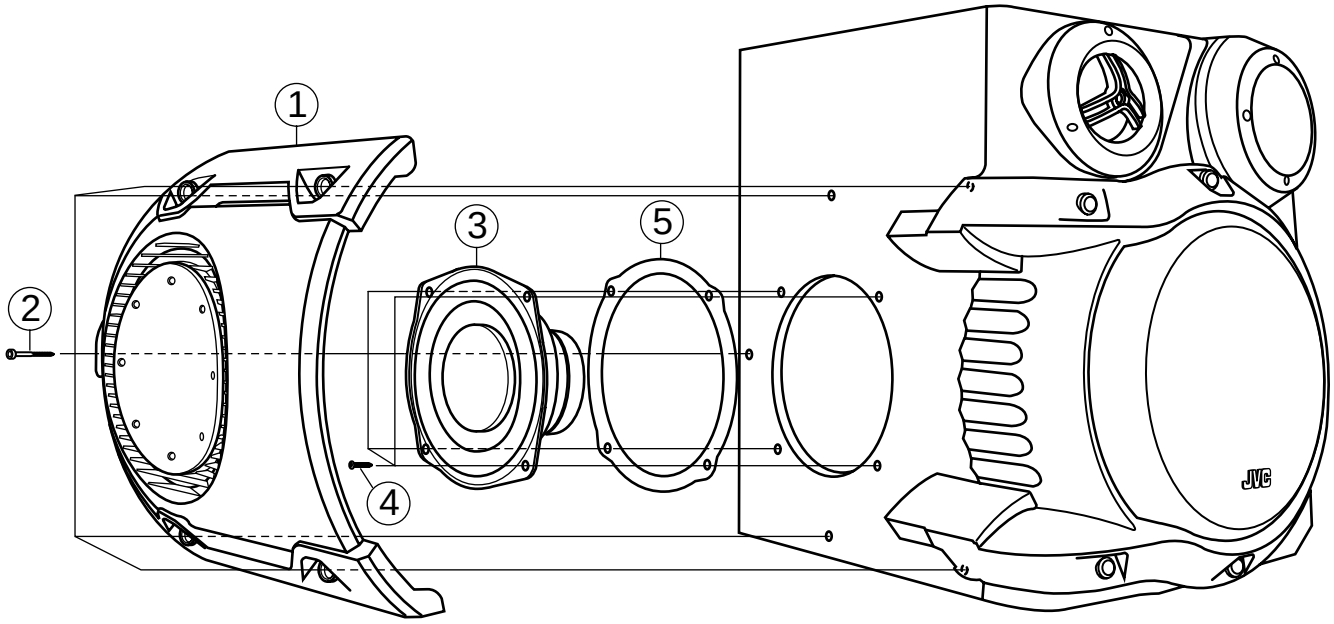
Block No. M1MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	32	AH61-01262A	H SINK BRAKET	2		
	33	AH64-02273D	REAR CABINET	1		
	34	AH62-00042A	HEAT SINK	1	4959	
	36	AH61-40014A	SUPPORT RIVET	1		
	37	AH95-50001A	LATCH ASSY	2		
	38	AH61-80030A	DAMPER ASSY	2		
	39	AH61-00552A	DOOR SPRING A	1		
	40	AH61-00553A	DOOR SPRING B	1		
	41	AH64-00462C	BADGE JVC	1		
	42	AH64-30416E	BOTTOM CABINET	1		
	43	AH64-30390K	TOP CABINET	1		
	44	AH69-20031A	CUSHION FOOT	2		
	45	AH63-00250B	HEAT SINK COVER	1		
	46	AH62-00080A	HEAT SINK	1	MAIN	
⚠	47	AH26-00228A	TRANS POWER	1	120V 40.5/40/4	
	53	AH07-00098A	VF DISPLAY	1		
	54	----------	CASSETTE MECHA	1	CWM43FF09	
⚠	56	AH39-00258J	POWER CORD	1		
	57	AH40-00051A	TUNER PACK	1	KST-MJ011MS0-60	

Exploded view of general assembly and parts list

Block No. M 2 M M

SPEAKER BOX



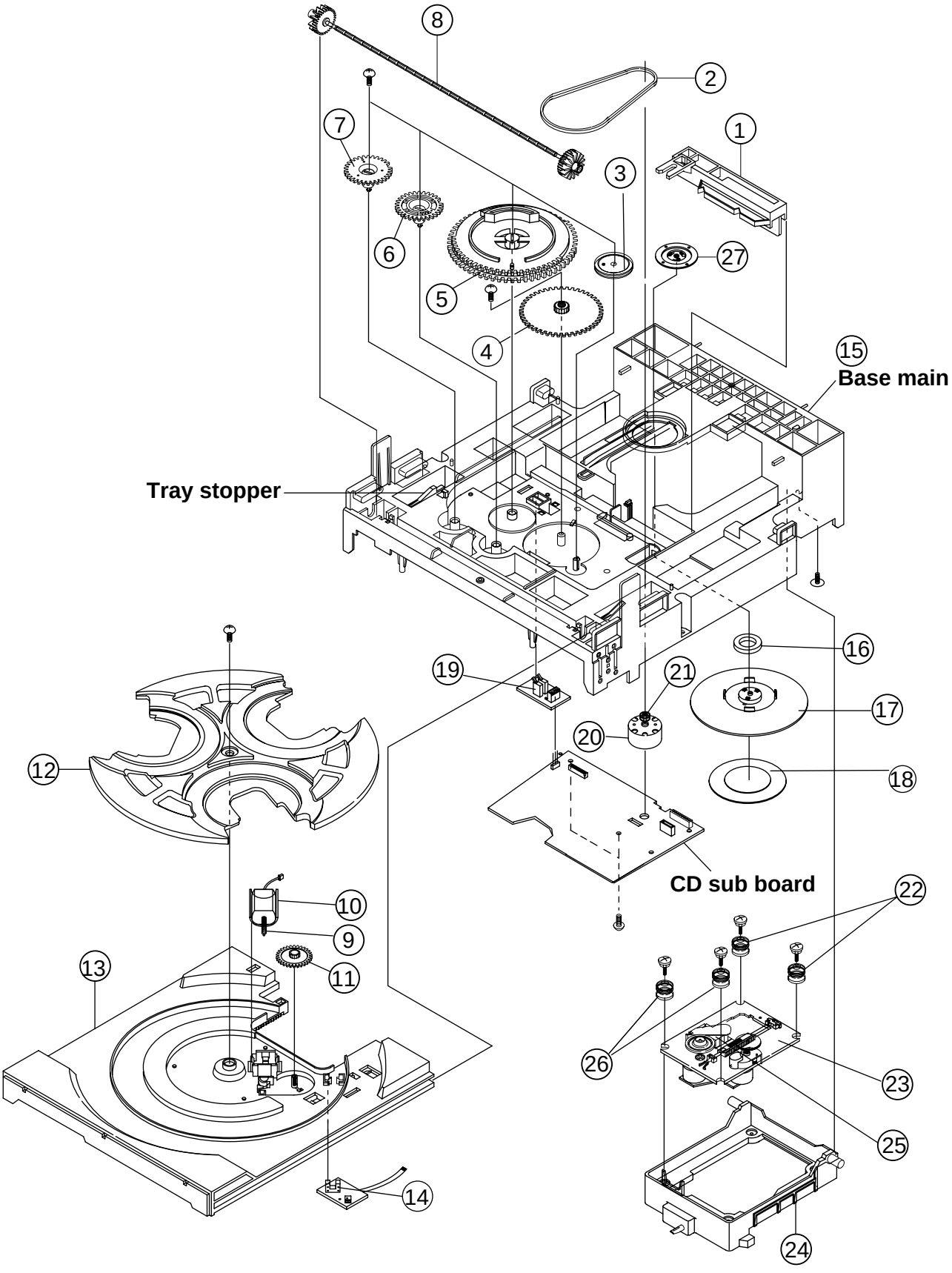
■ **Parts list (General assembly)**

Block No. M2MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	1	AH81-00959E	SIDE PANEL	1	RIGHT	
		AH81-00959F	SIDE PANEL	1	LEFT	
	2	AH81-01121A	SCREW	5	4.0X40MM BK	
	3	AH81-00959M	SPEAKER	1	130MM 6OHM 120W	
	4	AH81-00959Z	SCREW	4	3.5MMX16MM BK	
	5	AH91-00959X	SHEET	1	EVA	

CD changer mechanism assembly and parts list

Block No. M A M M



■ Parts list (CD changer mechanism)

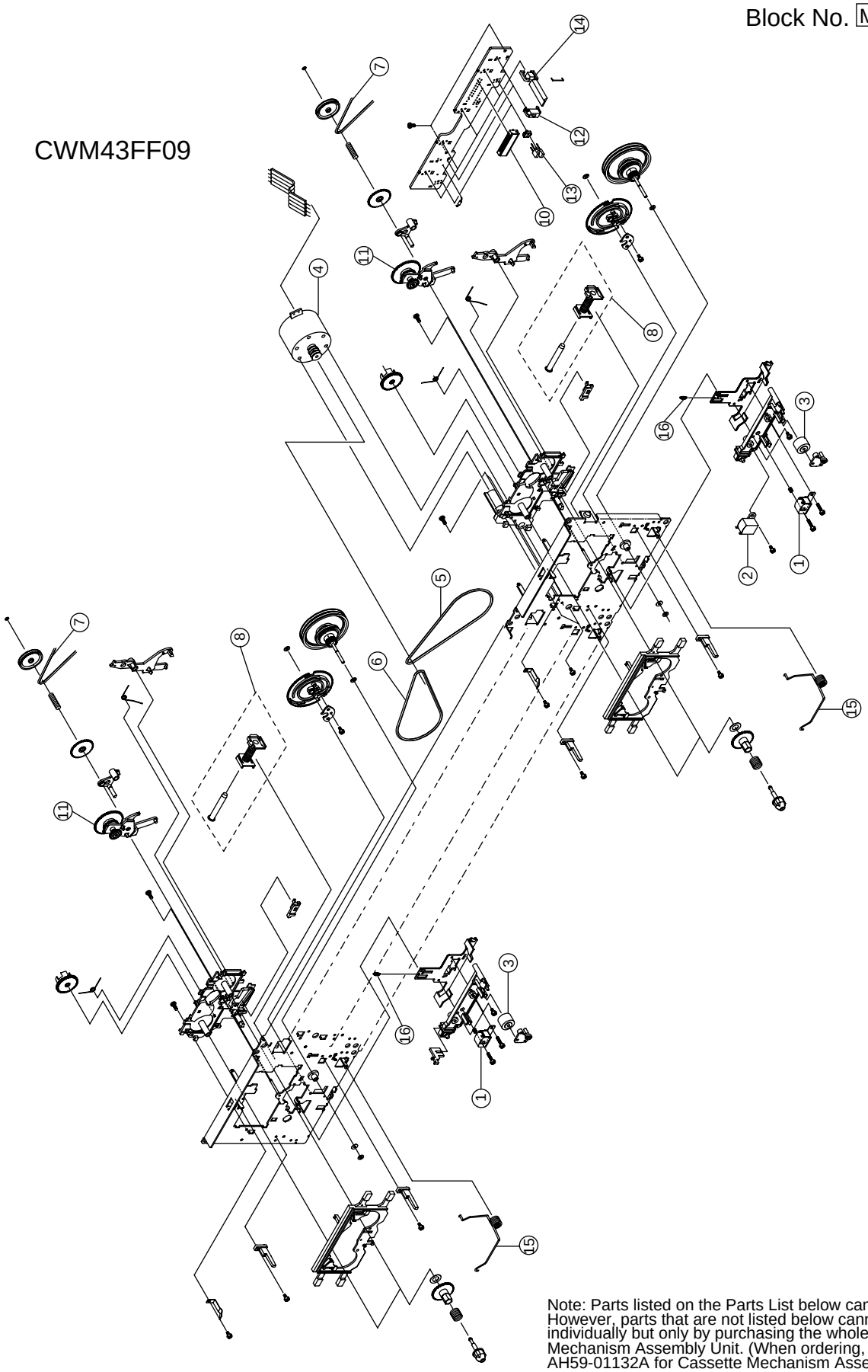
Block No. MAMM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	1	AH66-80022A	SLIDE CAM	1	ABS HF-380 NTR	
	2	AH66-60034A	BELT LOAD	1	CR	
	3	AH66-20186A	GEAR PULLEY	1	POM (M90-44)WHT	
	4	AH66-20187A	GEAR-LOAD	1	POM (M90-44)BLK	
	5	AH66-20188A	GEAR-CAM	1	POM(M90-44)WHT	
	6	AH66-20189A	GEAR-TRAY	1	POM(M90-44)BLK	
	7	AH66-20190A	GEAR-CONVERTOR	1	POM (M90-44) WH	
	8	AH66-20191A	GEAR-SYNCRO	1	ABS HF-380 NTR	
	9	AH66-20192A	GEAR-WORM	1	POM (M90-44)WHT	
	10	AH31-12001A	LOADING MOTOR	1	FF-030PN-09120	
	11	AH66-20193A	GEAR-ROULETTE	1	POM(M90-44)BLK	
	12	AH66-90056A	TRAY-ROULETTE	1	ABS XR-401 BLK	
	13	AH66-90055A	TRAY DISC	1	ABS XR-401 BLK	
	14	AH32-10001F	SENSOR	1	KPI-L06	
	15	AH61-20428A-1	BASE MAIN	1	CMS-300,BLK	
	16	3302-000159	MAGNET-FERRITE	1	3500-3800G,6P	
	17	AH66-90053A	TABTE-CHUCK UNI	1	BLK,CMS300	
	18	AH63-00068B	SHEET CHUCK	1	HYMERON,BLK,0.4	
	19	3404-000101	SWICH MICRO	1	MLS-24	
	20	AH31-10021A	DC MORTOR	1	RF-500TB,9VDC	
	21	AH66-10008A	PULLEY-MOTOR	1	BLK,CMS-CR3	
	22	AH73-10031A	RUBBER-CD	1	RCD380,RED	
	23	AH91-60150C	SP MOTOR ASS'Y	1	CMS-D73SG6U	
	24	AH66-30098A	LEVER-LIFTER	1	ABS(BLK),CMS-30	
	25	AH30-00007A	CD PICKUP	1	SOH-AD3	
	26	AH73-10034A	RUBBER-CD(G)	1	CMS-300D,GREEN	
	27	AH61-00255A	BRKT CHUCK	1	SECL 0.8T	

Cassette mechanism assembly and parts list

Block No. M P M M

CWM43FF09



Note: Parts listed on the Parts List below can be supplied. However, parts that are not listed below cannot be supplied individually but only by purchasing the whole Cassette Mechanism Assembly Unit. (When ordering, use the Parts No. AH59-01132A for Cassette Mechanism Assembly Unit.)

■ Parts list (Cassette mechanism)

Block No. MPMM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	1	AH81-00472A	PB HEAD	2	TC881CB067P	
	2	AH81-00472B	E HEAD	1	TC2131	
	3	AH81-00472N	PINCH ROLLER	2	22-027-41054	
	4	AH81-00902E	MOTOR ASSY	1	50-093-4879	
	5	AH81-00902G	BF BELT	1	02-083-4236	
	6	AH81-00902J	AF BELT	1	02-083-4234	
	7	AH81-00902K	FR BLET	2	02-083-4188	
	8	AH81-00902L	SOLENOID ASSY	2	50-093-4748	
	10	AH81-00902Q	HOUSING	1	6216016100	
	11	AH81-00472V	CLUTCH ASSY	2	50-093-4503	
	12	AH81-00902W	MODE SWITCH	1	MPU11570MLB0	
	13	AH81-00902X	PHOTO INTERRUPT	1	RP1352	
	14	AH81-00902Y	LEAF SWITCH	1	LSA11355	
	15	AH81-00903A	SPRING62	2	01-082-4686	
	16	AH81-00473H	SPRING 04	2	01-080-4635	

■ **Electrical parts list (Main board)** **Block No. 01**

⚠	Item	Parts number	Parts name	Remarks	Area
	AC101	2301-000216	M.CAPACITOR	220NF 5% 50V	
	AC102	2301-000474	M.CAPACITOR	8.2NF 10% 50V	
	AC103	2301-000390	M.CAPACITOR	15NF 10% 50V	
	AC104	2301-000216	M.CAPACITOR	220NF 5% 50V	
	AC105	2301-000419	M.CAPACITOR	27NF 10% 50V	
	AC106	2301-000449	M.CAPACITOR	47NF 10% 50V	
	AC107	2301-000375	M.CAPACITOR	100NF 10% 50V	
	AC108	2301-000375	M.CAPACITOR	100NF 10% 50V	
	AC109	2301-000419	M.CAPACITOR	27NF 10% 50V	
	AC110	2301-000216	M.CAPACITOR	220NF 5% 50V	
	AC111	2201-000144	C.CAPACITOR	0.1NF 5% 50V	
	AD101	0401-000101	DIODE	1N4148 100V	
	AD102	0401-000101	DIODE	1N4148 100V	
	AD103	0401-000101	DIODE	1N4148 100V	
	AD104	0401-000101	DIODE	1N4148 100V	
	AE101	2401-001893	E.CAPACITOR	100UF 20% 16V	
	AE102	2401-001893	E.CAPACITOR	100UF 20% 16V	
	AE103	2401-001954	E.CAPACITOR	4.7UF 20% 50V	
	AE104	2401-001954	E.CAPACITOR	4.7UF 20% 50V	
	AE105	2401-001893	E.CAPACITOR	100UF 20% 16V	
	AE106	2401-001893	E.CAPACITOR	100UF 20% 16V	
	AE107	2401-001893	E.CAPACITOR	100UF 20% 16V	
	AE108	2401-001893	E.CAPACITOR	100UF 20% 16V	
	AE109	2401-001511	E.CAPACITOR	47UF 20% 16V	
	AE110	2401-001511	E.CAPACITOR	47UF 20% 16V	
	AE111	2401-001912	E.CAPACITOR	1UF 20% 50V	
	AE112	2401-001893	E.CAPACITOR	100UF 20% 16V	
	AE113	2401-001893	E.CAPACITOR	100UF 20% 16V	
	AE114	2401-001511	E.CAPACITOR	47UF 20% 16V	
	AE115	2401-001511	E.CAPACITOR	47UF 20% 16V	
	AE116	2401-002180	E.CAPACITOR	2.2UF 20% 50V	
	AE117	2401-003621	E.CAPACITOR	47UF 20% 63V	
	AIC01	1201-000191	IC	BA4558 8P DIP	
	AIC02	1201-000191	IC	BA4558 8P DIP	
	AIC03	1201-000191	IC	BA4558 8P DIP	
	AIC04	1201-000191	IC	BA4558 8P DIP	
	AQ101	0501-002409	TRANSISTOR	KTC945Y 600MW	
	AQ102	0501-002409	TRANSISTOR	KTC945Y 600MW	
	AQ103	0501-002409	TRANSISTOR	KTC945Y 600MW	
	AR01L	2001-000522	CARBON RESISTOR	22K 5% 1/8W	
	AR01R	2001-000522	CARBON RESISTOR	22K 5% 1/8W	
	AR02L	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	AR02R	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	AR03L	2001-000508	CARBON RESISTOR	220K 5% 1/8W	
	AR03R	2001-000508	CARBON RESISTOR	220K 5% 1/8W	
	AR101	2001-000563	CARBON RESISTOR	27K 5% 1/8W	
	AR102	2001-000563	CARBON RESISTOR	27K 5% 1/8W	
	AR103	2001-000548	CARBON RESISTOR	270K 5% 1/8W	
	AR104	2001-000273	CARBON RESISTOR	100K 5% 1/8W	
	AR105	2001-000273	CARBON RESISTOR	100K 5% 1/8W	
	AR106	2001-000522	CARBON RESISTOR	22K 5% 1/8W	
	AR107	2001-000522	CARBON RESISTOR	22K 5% 1/8W	
	AR108	2001-000281	CARBON RESISTOR	100 5% 1/8W	
	AR109	2001-000281	CARBON RESISTOR	100 5% 1/8W	
	AR110	2001-000273	CARBON RESISTOR	100K 5% 1/8W	
	AR111	2001-000273	CARBON RESISTOR	100K 5% 1/8W	
	AR112	2001-000273	CARBON RESISTOR	100K 5% 1/8W	
	AR113	2001-000281	CARBON RESISTOR	100 5% 1/8W	
	AR114	2001-000864	CARBON RESISTOR	56K 5% 1/8W	
	AR115	2001-000258	CARBON RESISTOR	1.8K 5% 1/8W	
	AR116	2001-000977	CARBON RESISTOR	8.2K 5% 1/8W	
	AR117	2001-000281	CARBON RESISTOR	100 5% 1/8W	
	AR118	2001-000508	CARBON RESISTOR	220K 5% 1/8W	

⚠	Item	Parts number	Parts name	Remarks	Area
	AR119	2001-000281	CARBON RESISTOR	100 5% 1/8W	
	AR120	2001-000281	CARBON RESISTOR	100 5% 1/8W	
	AR121	2001-000802	CARBON RESISTOR	5.6K 5% 1/8W	
	AR122	2001-000522	CARBON RESISTOR	22K 5% 1/8W	
	AR123	2001-000258	CARBON RESISTOR	1.8K 5% 1/8W	
	AR124	2001-000331	CARBON RESISTOR	12K 5% 1/8W	
	AR125	2001-000522	CARBON RESISTOR	22K 5% 1/8W	
	AR126	2001-000522	CARBON RESISTOR	22K 5% 1/8W	
	AR127	2001-000977	CARBON RESISTOR	8.2K 5% 1/8W	
	AR128	2001-000660	CARBON RESISTOR	33K 5% 1/8W	
	AR129	2001-000281	CARBON RESISTOR	100 5% 1/8W	
	AR130	2001-000281	CARBON RESISTOR	100 5% 1/8W	
	AR131	2001-000281	CARBON RESISTOR	100 5% 1/8W	
	AR132	2001-000508	CARBON RESISTOR	220K 5% 1/8W	
	AR133	2001-000449	CARBON RESISTOR	2.2K 5% 1/8W	
	AR134	2001-001000	CARBON RESISTOR	82K 5% 1/8W	
	AR135	2001-000273	CARBON RESISTOR	100K 5% 1/8W	
	AR136	2001-000273	CARBON RESISTOR	100K 5% 1/8W	
	AR137	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	AR138	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	AR139	2001-000554	CARBON RESISTOR	270 5% 1/8W	
	AR140	2001-000802	CARBON RESISTOR	5.6K 5% 1/8W	
	AR141	2001-000281	CARBON RESISTOR	100 5% 1/8W	
	AR301	2001-000281	CARBON RESISTOR	100 5% 1/8W	
	AR302	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	BC01L	2301-000361	M.CAPACITOR	1.2NF 10% 50V	
	BC01R	2301-000361	M.CAPACITOR	1.2NF 10% 50V	
	BD101	0401-000101	DIODE	1N4148 100V	
	BL01L	AH26-10002W	TRANS TRAP-COIL	BIAS-TRAP105K	
	BL01R	AH26-10002W	TRANS TRAP-COIL	BIAS-TRAP105K	
	BO02L	0501-000010	TRANSISTOR	KTC1008 800MW	
	BO02R	0501-000010	TRANSISTOR	KTC1008 800MW	
	BO03L	0501-000010	TRANSISTOR	KTC1008 800MW	
	BO03R	0501-000010	TRANSISTOR	KTC1008 800MW	
	BO101	0504-001128	DIGI TRANSISTOR	KRA103M 400MW	
	BR01L	2001-000281	CARBON RESISTOR	100 5% 1/8W	
	BR01R	2001-000281	CARBON RESISTOR	100 5% 1/8W	
	BR02L	2001-000890	CARBON RESISTOR	6.8K 5% 1/8W	
	BR02R	2001-000890	CARBON RESISTOR	6.8K 5% 1/8W	
	BR03L	2001-000890	CARBON RESISTOR	6.8K 5% 1/8W	
	BR03R	2001-000890	CARBON RESISTOR	6.8K 5% 1/8W	
	BR101	2001-000522	CARBON RESISTOR	22K 5% 1/8W	
	CE101	2401-000240	E.CAPACITOR	100UF 20% 10V	
	CE102	2401-001893	E.CAPACITOR	100UF 20% 16V	
	CE103	2401-001887	E.CAPACITOR	100NF 20% 50V	
	CO01L	0504-001125	DIGI TRANSISTOR	KRC110M 400MW	
	CO01R	0504-001125	DIGI TRANSISTOR	KRC110M 400MW	
	CO101	0504-001128	DIGI TRANSISTOR	KRA103M 400MW	
	CR01L	2001-000864	CARBON RESISTOR	56K 5% 1/8W	
	CR01R	2001-000864	CARBON RESISTOR	56K 5% 1/8W	
	CR02L	2001-000411	CARBON RESISTOR	18K 5% 1/8W	
	CR02R	2001-000411	CARBON RESISTOR	18K 5% 1/8W	
	CW101	3708-001577	CONNECTOR	30P 1.25MM	
	CW103	3708-000412	CONNECTOR	12P 1.25MM	
	CW104	3711-001137	CONNECTOR	8P 1R 2MM	
	CW105	3708-001167	CONNECTOR	14P 1.25MM	
	CW106	AH39-00295A	W/HARNESS UNIT	MAX-L85 9P	
	CW107	AH39-00338A	LEAD CONNECTOR		
	CW108	3711-001062	CONNECTOR	6P 1R 2MM	
	CW109	3711-003111	CONNECTOR	6P 1R 2.5MM	
	CW110	3711-003107	CONNECTOR	3P 1R 2.5MM	
	CW111	3711-000907	CONNECTOR	3P 1R 2MM	
	EC07L	2301-000454	M.CAPACITOR	5.6NF 10% 50V	

■ **Electrical parts list (Main board)** **Block No. 01**

⚠	Item	Parts number	Parts name	Remarks	Area
	EC07R	2301-000454	M.CAPACITOR	5.6NF 10% 50V	
	EC08L	2301-000216	M.CAPACITOR	220NF 5% 50V	
	EC08R	2301-000216	M.CAPACITOR	220NF 5% 50V	
	EC09L	2301-000216	M.CAPACITOR	220NF 5% 50V	
	EC09R	2301-000216	M.CAPACITOR	220NF 5% 50V	
	EC10L	2201-000368	C.CAPACITOR	0.22NF 10% 50V	
	EC10R	2201-000368	C.CAPACITOR	0.22NF 10% 50V	
	EC101	2301-000361	M.CAPACITOR	1.2NF 10% 50V	
	EC102	2301-000375	M.CAPACITOR	100NF 10% 50V	
	EC103	2201-000783	C.CAPACITOR	100NF +80-20% 50V	
	EC11L	2201-000368	C.CAPACITOR	0.22NF 10% 50V	
	EC11R	2201-000368	C.CAPACITOR	0.22NF 10% 50V	
	ED102	0401-000101	DIODE	1N4148 100V	
	EE01L	2401-001912	E.CAPACITOR	1UF 20% 50V	
	EE01R	2401-001912	E.CAPACITOR	1UF 20% 50V	
	EE02L	2401-001912	E.CAPACITOR	1UF 20% 50V	
	EE02R	2401-001912	E.CAPACITOR	1UF 20% 50V	
	EE03L	2401-001917	E.CAPACITOR	1UF 20% 50V	
	EE03R	2401-001912	E.CAPACITOR	1UF 20% 50V	
	EE04L	2401-001912	E.CAPACITOR	1UF 20% 50V	
	EE04R	2401-001912	E.CAPACITOR	1UF 20% 50V	
	EE05L	2401-001912	E.CAPACITOR	1UF 20% 50V	
	EE05R	2401-001912	E.CAPACITOR	1UF 20% 50V	
	EE06L	2401-001919	E.CAPACITOR	2.2UF 20% 50V	
	EE06R	2401-001919	E.CAPACITOR	2.2UF 20% 50V	
	EE07L	2401-001917	E.CAPACITOR	1UF 20% 50V	
	EE07R	2401-001912	E.CAPACITOR	1UF 20% 50V	
	EE08L	2401-001917	E.CAPACITOR	1UF 20% 50V	
	EE08R	2401-001917	E.CAPACITOR	1UF 20% 50V	
	EE101	2401-000438	E.CAPACITOR	10UF 20% 25V	
	EE102	2401-001511	E.CAPACITOR	47UF 20% 16V	
	EE103	2401-000778	E CAPACITOR	220UF 20% 10V	
	EE107	2401-001954	E.CAPACITOR	4.7UF 20% 50V	
	EE108	2401-001954	E.CAPACITOR	4.7UF 20% 50V	
	EE109	2401-000759	E.CAPACITOR	220NF 20% 50V	
	EIC01	1204-001776	IC	TDA7442D 28P	
	EIC02	1201-000191	IC	BA4558 8P DIP	
	EJ101	3722-000379	JACK-PIN	4P/2C 3.5MM	
	EO101	0501-002409	TRANSISTOR	KTC945Y 600MW	
	ER01L	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	ER01R	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	ER02L	2001-000591	CARBON RESISTOR	3.3K 5% 1/8W	
	ER02R	2001-000591	CARBON RESISTOR	3.3K 5% 1/8W	
	ER03L	2001-000411	CARBON RESISTOR	18K 5% 1/8W	
	ER03R	2001-000411	CARBON RESISTOR	18K 5% 1/8W	
	ER04L	2001-000411	CARBON RESISTOR	18K 5% 1/8W	
	ER04R	2001-000411	CARBON RESISTOR	18K 5% 1/8W	
	ER05L	2001-000515	CARBON RESISTOR	220 5% 1/8W	
	ER05R	2001-000515	CARBON RESISTOR	220 5% 1/8W	
	ER06L	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	ER06R	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	ER07L	2001-000591	CARBON RESISTOR	3.3K 5% 1/8W	
	ER07R	2001-000591	CARBON RESISTOR	3.3K 5% 1/8W	
	ER08L	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	ER08R	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	ER09L	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	ER09R	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	ER10L	2001-000273	CARBON RESISTOR	100K 5% 1/8W	
	ER10R	2001-000273	CARBON RESISTOR	100K 5% 1/8W	
	ER101	2001-000515	CARBON RESISTOR	220 5% 1/8W	
	ER102	2001-000515	CARBON RESISTOR	220 5% 1/8W	
	ER103	2001-000023	CARBON RESISTOR	47 5% 1/4W	
	ER104	2001-000023	CARBON RESISTOR	47 5% 1/4W	

⚠	Item	Parts number	Parts name	Remarks	Area
	ER109	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	ER110	2001-000773	CARBON RESISTOR	470K 5% 1/8W	
	ER111	2001-000515	CARBON RESISTOR	220 5% 1/8W	
	ER112	2001-000645	CARBON RESISTOR	330K 5% 1/8W	
	ER113	2001-000989	CARBON RESISTOR	820K 5% 1/8W	
	ER13L	2001-000864	CARBON RESISTOR	56K 5% 1/8W	
	ER13R	2001-000864	CARBON RESISTOR	56K 5% 1/8W	
	ER14L	2001-000008	CARBON RESISTOR	15K 5% 1/8W	
	ER14R	2001-000008	CARBON RESISTOR	15K 5% 1/8W	
	ER15L	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	ER15R	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	ER16L	2001-000003	CARBON RESISTOR	330 5% 1/8W	
	ER16R	2001-000003	CARBON RESISTOR	330 5% 1/8W	
	ER17L	2001-000003	CARBON RESISTOR	330 5% 1/8W	
	ER17R	2001-000003	CARBON RESISTOR	330 5% 1/8W	
	EZD01	0403-000372	ZENER DIODE	UZ9.1BM 9.1V	
	EZD02	0403-000372	ZENER DIODE	UZ9.1BM 9.1V	
	HC01L	2201-000642	C.CAPACITOR	0.68NF 10% 50V	
	HC01R	2201-000642	C.CAPACITOR	0.68NF 10% 50V	
	HE01L	2401-001912	E.CAPACITOR	1UF 20% 50V	
	HE01R	2401-001912	E.CAPACITOR	1UF 20% 50V	
	HE02L	2401-001164	E.CAPACITOR	33UF 20% 16V	
	HE02R	2401-001164	E.CAPACITOR	33UF 20% 16V	
	HE101	2401-000830	E.CAPACITOR	220UF 20% 25V	
	HE102	2401-000830	E.CAPACITOR	220UF 20% 25V	
	HE103	2401-001511	E.CAPACITOR	47UF 20% 16V	
	HIC01	1201-000461	IC	BA4558 8P SOIC	
	HO01L	0501-002375	TRANSISTOR	KTC8050 625MW	
	HO01R	0501-002375	TRANSISTOR	KTC8050 625MW	
	HR01L	2001-000449	CARBON RESISTOR	2.2K 5% 1/8W	
	HR01R	2001-000449	CARBON RESISTOR	2.2K 5% 1/8W	
	HR02L	2001-000449	CARBON RESISTOR	2.2K 5% 1/8W	
	HR02R	2001-000449	CARBON RESISTOR	2.2K 5% 1/8W	
	HR03L	2001-000734	CARBON RESISTOR	4.7K 5% 1/8W	
	HR03R	2001-000734	CARBON RESISTOR	4.7K 5% 1/8W	
	HR04L	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	HR04R	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	HR05L	2001-000019	CARBON RESISTOR	10 5% 1/2W	
	HR05R	2001-000019	CARBON RESISTOR	10 5% 1/2W	
	HR06L	2001-000591	CARBON RESISTOR	3.3K 5% 1/8W	
	HR06R	2001-000591	CARBON RESISTOR	3.3K 5% 1/8W	
	HR101	2001-000028	CARBON RESISTOR	100 5% 1/2W	
	HR102	2001-000019	CARBON RESISTOR	10 5% 1/2W	
	HR103	2001-000890	CARBON RESISTOR	6.8K 5% 1/8W	
	HR104	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	JC00L	2201-000368	C.CAPACITOR	0.22NF 10% 50V	
	JC00R	2201-000368	C.CAPACITOR	0.22NF 10% 50V	
	JC01L	2201-000642	C.CAPACITOR	0.68NF 10% 50V	
	JC01R	2201-000642	C.CAPACITOR	0.68NF 10% 50V	
	JC02L	2301-000379	M.CAPACITOR	10NF 10% 50V	
	JC02R	2301-000379	M.CAPACITOR	10NF 10% 50V	
	JC03L	2301-000375	M.CAPACITOR	100NF 10% 50V	
	JC03R	2301-000375	M.CAPACITOR	100NF 10% 50V	
	JC04L	2301-000375	M.CAPACITOR	100NF 10% 50V	
	JC04R	2301-000375	M.CAPACITOR	100NF 10% 50V	
	JC05L	2301-000430	M.CAPACITOR	33NF 10% 50V	
	JC05R	2301-000430	M.CAPACITOR	33NF 10% 50V	
	JC06L	2201-000674	C.CAPACITOR	0.82NF 10% 50V	
	JC06R	2201-000674	C.CAPACITOR	0.82NF 10% 50V	
	JC101	2201-000557	C.CAPACITOR	0.47NF 10% 50V	
	JC102	2301-000407	M.CAPACITOR	2.7NF 10% 50V	
	JC103	2301-000404	M.CAPACITOR	2.2NF 10% 50V	
	JC104	2301-000404	M.CAPACITOR	2.2NF 10% 50V	

■ **Electrical parts list (Main board)** **Block No. 01**

⚠	Item	Parts number	Parts name	Remarks	Area
	JC105	2202-000781	C.CAPACITOR	100PF 10% 50V	
	JC106	2202-000781	C.CAPACITOR	100PF 10% 50V	
	JC107	2202-000781	C.CAPACITOR	100PF 10% 50V	
	JC108	2202-000781	C.CAPACITOR	100PF 10% 50V	
	JD101	0401-000101	DIODE	1N4148 100V	
	JE01L	2401-002180	E.CAPACITOR	2.2UF 20% 50V	
	JE01R	2401-002180	E.CAPACITOR	2.2UF 20% 50V	
	JE02L	2401-002180	E.CAPACITOR	2.2UF 20% 50V	
	JE02R	2401-002180	E.CAPACITOR	2.2UF 20% 50V	
	JE101	2401-001511	E.CAPACITOR	47UF 20% 16V	
	JE102	2401-001164	E.CAPACITOR	33UF 20% 16V	
	JE103	2401-001912	E.CAPACITOR	1UF 20% 50V	
	JE104	2401-001164	E.CAPACITOR	33UF 20% 16V	
	JE105	2401-000438	E.CAPACITOR	10UF 20% 25V	
	JIC01	1201-001899	IC	HA12237F 40P	
	JL101	2701-000298	INDUCTOR	470UH 10%	
	JL102	AH26-10003C	TRANS TRAP-COIL	PCHNS-5371EOJ	
	JO01L	0501-002375	TRANSISTOR	KTC8050 625MW	
	JO01R	0501-002375	TRANSISTOR	KTC8050 625MW	
	JQ101	0501-002176	TRANSISTOR	KTD863 1W	
	JQ102	0501-000422	TRANSISTOR	KTA1273	
	JQ103	0501-002409	TRANSISTOR	KTC945B	
	JO104	0504-001128	DIGI TRANSISTOR	KRA103M 400MW	
	JR01L	2001-000977	CARBON RESISTOR	8.2K 5% 1/8W	
	JR01R	2001-000977	CARBON RESISTOR	8.2K 5% 1/8W	
	JR02L	2001-000241	CARBON RESISTOR	1.5K 5% 1/8W	
	JR02R	2001-000241	CARBON RESISTOR	1.5K 5% 1/8W	
	JR03L	2001-000449	CARBON RESISTOR	2.2K 5% 1/8W	
	JR03R	2001-000449	CARBON RESISTOR	2.2K 5% 1/8W	
	JR04L	2001-000734	CARBON RESISTOR	4.7K 5% 1/8W	
	JR04R	2001-000734	CARBON RESISTOR	4.7K 5% 1/8W	
	JR05L	2001-000802	CARBON RESISTOR	5.6K 5% 1/8W	
	JR05R	2001-000802	CARBON RESISTOR	5.6K 5% 1/8W	
	JR06L	2001-000449	CARBON RESISTOR	2.2K 5% 1/8W	
	JR06R	2001-000449	CARBON RESISTOR	2.2K 5% 1/8W	
	JR07L	2001-000302	CARBON RESISTOR	10 5% 1/8W	
	JR07R	2001-000302	CARBON RESISTOR	10 5% 1/8W	
	JR08L	2001-000008	CARBON RESISTOR	15K 5% 1/8W	
	JR08R	2001-000008	CARBON RESISTOR	15K 5% 1/8W	
	JR101	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	JR102	2001-000456	CARBON RESISTOR	2.2 5% 1/4W	
	JR103	2001-000023	CARBON RESISTOR	47 5% 1/4W	
	JR104	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	JR105	2001-000591	CARBON RESISTOR	3.3K 5% 1/8W	
	JR106	2001-000734	CARBON RESISTOR	4.7K 5% 1/8W	
	JR107	2001-000429	CARBON RESISTOR	1K 5% 1/8W	
	JR108	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	JR109	2001-000591	CARBON RESISTOR	3.3K 5% 1/8W	
	JR110	2001-000281	CARBON RESISTOR	100 5% 1/8W	
	JR112	2001-000435	CARBON RESISTOR	1M 5% 1/8W	
	JR113	2001-000522	CARBON RESISTOR	22K 5% 1/8W	
	JVR01	2103-000248	ROTA V RESISTOR	200K 30% 1/10W	
	JVR02	2103-000248	ROTA V RESISTOR	200K 30% 1/10W	
⚠	PBD01	0402-000450	DIODE-BRIDGE	GBU606 600V 6A	
⚠	PBD02	0402-001258	DIODE-BRIDGE	GBU606 600V 6A	
⚠	PBD03	0402-001077	DIODE-BRIDGE	KBP202G 200V 2A	
	PCB	AH41-00555A	PCB MAIN	MX-GA77	
⚠	PC201	2201-000161	C.CAPACITOR	10NF +80-20% 500V	
⚠	PC202	2201-000161	C.CAPACITOR	10NF +80-20% 500V	
⚠	PC203	2201-000161	C.CAPACITOR	10NF +80-20% 500V	
	PD201	0402-000127	DIODE	1N4002 100V 1A	
	PD202	0402-000127	DIODE	1N4002 100V 1A	
	PD203	0402-000127	DIODE	1N4002 100V 1A	

⚠	Item	Parts number	Parts name	Remarks	Area
	PD204	0402-000127	DIODE	1N4002 100V 1A	
	PD205	0401-000101	DIODE	1N4148 100V	
	PD206	0401-000101	DIODE	1N4148 100V	
	PD209	0402-000127	DIODE	1N4002 100V 1A	
	PD210	0402-000127	DIODE	1N4002 100V 1A	
⚠	PE201	2401-001067	E.CAPACITOR	3300UF 20% 42V	
⚠	PE202	2401-001067	E.CAPACITOR	3300UF 20% 42V	
⚠	PE203	2401-003381	E.CAPACITOR	3300UF 20% 63V	
⚠	PE204	2401-003381	E.CAPACITOR	3300UF 20% 63V	
⚠	PE205	2401-003116	E.CAPACITOR	4700UF 20% 35V	
	PE206	2401-000830	E.CAPACITOR	220UF 20% 25V	
	PE207	2401-001938	E.CAPACITOR	22UF 20% 25V	
	PE208	2401-000407	E.CAPACITOR	10UF 20% 16V	
	PE209	2401-001912	E.CAPACITOR	1UF 20% 50V	
	PE210	2401-001912	E.CAPACITOR	1UF 20% 50V	
	PE211	2401-001954	E.CAPACITOR	4.7UF 20% 50V	
	PE212	2401-000230	E.CAPACITOR	100UF 20% 100V	
	PE213	2401-000385	E.CAPACITOR	10UF 20% 100V	
	PE214	2401-000438	E.CAPACITOR	10UF 20% 25V	
⚠	PF101	2008-000135	FUSIBLE RESISTOR	1 5% 1/2W	
	PIC02	1203-001653	REGULATOR	L4959	
	PL102	2701-000298	INDUCTOR	470UH 10%	
	PO102	0504-000144	DIGI TRANSISTOR	KSR2002 300MW	
	PO103	0504-001123	DIGI TRANSISTOR	KRC103M 400MW	
	PQ104	0501-000331	TRANSISTOR	KSC1009-Y	
	PO105	0501-000422	TRANSISTOR	KTA1273	
	PO106	0501-002408	TRANSISTOR	MPS751	
	PR201	2001-000591	CARBON RESISTOR	3.3K 5% 1/8W	
	PR202	2001-000734	CARBON RESISTOR	4.7K 5% 1/8W	
	PR203	2001-000429	CARBON RESISTOR	1K 5% 1/8W	
	PR204	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	PR205	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	PR206	2003-000455	OMF RESISTOR	100 5% 2W	
	PR207	2001-000563	CARBON RESISTOR	27K 5% 1/8W	
	PR208	2001-000734	CARBON RESISTOR	4.7K 5% 1/8W	
	PR209	2001-000111	CARBON RESISTOR	150 5% 1/4W	
	PR210	2001-000055	CARBON RESISTOR	4.7K 5% 1/4W	
	PR211	2001-000038	CARBON RESISTOR	390 5% 1/4W	
	PR212	2001-000429	CARBON RESISTOR	1K 5% 1/8W	
	PR213	2001-000734	CARBON RESISTOR	4.7K 5% 1/8W	
	PR214	2001-000613	CARBON RESISTOR	3.9K 5% 1/8W	
	PR215	2001-000890	CARBON RESISTOR	6.8K 5% 1/8W	
	PR216	2003-000701	OMF RESISTOR	470 5% 2W	
	PR217	2001-001153	CARBON RESISTOR	47 5% 1/2W	
	PR218	2001-001153	CARBON RESISTOR	47 5% 1/2W	
	PR219	2001-000734	CARBON RESISTOR	4.7K 5% 1/8W	
	PR220	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	PR221	2001-000660	CARBON RESISTOR	33K 5% 1/8W	
	PR222	2001-000244	CARBON RESISTOR	1.5M 5% 1/8W	
	PZ101	0403-000354	ZENER DIODE	UZ5.1B 5.1V	
	PZ102	0403-000564	ZENER DIODE	TZP16A 16V	
	PZ103	0403-000564	ZENER DIODE	TZP16A 16V	
	PZ104	0403-000393	ZENER DIODE	UZP5.1B 5.1V	
	PZ105	0403-000379	ZENER DIODE	UZP12B 12V	
⚠	RFS9	3601-001295	FUSE	125V 4A FAST	

■ **Electrical parts list (Front board)** **Block No. 02**

⚠	Item	Parts number	Parts name	Remarks	Area
	BUZZ1	3002-001134	BUZZER	85DB 12V	
	CW01B	AH39-00247A	LEAD CONNECTOR		
	FR101	2001-000734	CARBON RESISTOR	4.7K 5% 1/8W	
	FR102	2001-000734	CARBON RESISTOR	4.7K 5% 1/8W	
	FR103	2001-000734	CARBON RESISTOR	4.7K 5% 1/8W	
	FR104	2001-000734	CARBON RESISTOR	4.7K 5% 1/8W	
	FR105	2001-000734	CARBON RESISTOR	4.7K 5% 1/8W	
	FR106	2001-000734	CARBON RESISTOR	4.7K 5% 1/8W	
	FR107	2001-000734	CARBON RESISTOR	4.7K 5% 1/8W	
	FR108	2001-000734	CARBON RESISTOR	4.7K 5% 1/8W	
	FR109	2001-000734	CARBON RESISTOR	4.7K 5% 1/8W	
	FR110	2001-000734	CARBON RESISTOR	4.7K 5% 1/8W	
	FR111	2001-000734	CARBON RESISTOR	4.7K 5% 1/8W	
	FR112	2001-000734	CARBON RESISTOR	4.7K 5% 1/8W	
	FR113	2001-000734	CARBON RESISTOR	4.7K 5% 1/8W	
	FR114	2001-000734	CARBON RESISTOR	4.7K 5% 1/8W	
	FR115	2001-000734	CARBON RESISTOR	4.7K 5% 1/8W	
	FR116	2001-000734	CARBON RESISTOR	4.7K 5% 1/8W	
	FR117	2001-000734	CARBON RESISTOR	4.7K 5% 1/8W	
	FR118	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	FR119	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	FR120	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	FR121	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	FR122	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	FR123	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	FR124	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	FR125	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	FR126	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	FR127	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	FR128	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	FR129	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	FR130	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	FR131	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	FR132	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	FR133	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	FR134	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	FR135	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	FR136	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	FR140	2001-000995	CARBON RESISTOR	820 5% 1/8W	
	FR141	2001-000429	CARBON RESISTOR	1K 5% 1/8W	
	FR142	2001-000221	CARBON RESISTOR	1.2K 5% 1/8W	
	FR143	2001-000241	CARBON RESISTOR	1.5K 5% 1/8W	
	FR144	2001-000258	CARBON RESISTOR	1.8K 5% 1/8W	
	FR145	2001-000449	CARBON RESISTOR	2.2K 5% 1/8W	
	FR146	2001-000591	CARBON RESISTOR	3.3K 5% 1/8W	
	FR147	2001-000890	CARBON RESISTOR	6.8K 5% 1/8W	
	FR148	2001-000734	CARBON RESISTOR	4.7K 5% 1/8W	
	FR149	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	FR150	2001-000522	CARBON RESISTOR	22K 5% 1/8W	
	FR151	2001-000010	CARBON RESISTOR	68K 5% 1/8W	
	FR152	2001-000995	CARBON RESISTOR	820 5% 1/8W	
	FR153	2001-000429	CARBON RESISTOR	1K 5% 1/8W	
	FR154	2001-000221	CARBON RESISTOR	1.2K 5% 1/8W	
	FR155	2001-000241	CARBON RESISTOR	1.5K 5% 1/8W	
	FR156	2001-000258	CARBON RESISTOR	1.8K 5% 1/8W	
	FR157	2001-000449	CARBON RESISTOR	2.2K 5% 1/8W	
	FR158	2001-000591	CARBON RESISTOR	3.3K 5% 1/8W	
	FR159	2001-000734	CARBON RESISTOR	4.7K 5% 1/8W	
	FR160	2001-000890	CARBON RESISTOR	6.8K 5% 1/8W	
	FR161	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	FR162	2001-000522	CARBON RESISTOR	22K 5% 1/8W	
	FR201	2001-000034	CARBON RESISTOR	220 5% 1/4W	
	FR202	2001-000034	CARBON RESISTOR	220 5% 1/4W	

⚠	Item	Parts number	Parts name	Remarks	Area
	FR203	2001-000034	CARBON RESISTOR	220 5% 1/4W	
	FR204	2001-000855	CARBON RESISTOR	560 5% 1/4W	
	FR205	2001-000995	CARBON RESISTOR	820 5% 1/8W	
	FR206	2001-000429	CARBON RESISTOR	1K 5% 1/8W	
	FR207	2001-000221	CARBON RESISTOR	1.2K 5% 1/8W	
	FR208	2001-000241	CARBON RESISTOR	1.5K 5% 1/8W	
	FR209	2001-000258	CARBON RESISTOR	1.8K 5% 1/8W	
	FR210	2001-000449	CARBON RESISTOR	2.2K 5% 1/8W	
	FR211	2001-000429	CARBON RESISTOR	1K 5% 1/8W	
	FR212	2001-000429	CARBON RESISTOR	1K 5% 1/8W	
	FR213	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	FR214	2001-000429	CARBON RESISTOR	1K 5% 1/8W	
	FR215	2001-000734	CARBON RESISTOR	4.7K 5% 1/8W	
	FR216	2001-000449	CARBON RESISTOR	2.2K 5% 1/8W	
	FR217	2001-000734	CARBON RESISTOR	4.7K 5% 1/8W	
	FR218	2001-000508	CARBON RESISTOR	220K 5% 1/8W	
	FR219	2001-000793	CARBON RESISTOR	47 5% 1/8W	
	FR220	2001-000295	CARBON RESISTOR	10M 5% 1/8W	
	FR221	2001-000850	CARBON RESISTOR	560K 5% 1/8W	
	FR222	2001-000435	CARBON RESISTOR	1M 5% 1/8W	
	FR223	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	FR224	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	FR225	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	FR226	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	FR227	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	FR228	2001-000429	CARBON RESISTOR	1K 5% 1/8W	
	FR229	2001-000429	CARBON RESISTOR	1K 5% 1/8W	
	FR230	2001-000429	CARBON RESISTOR	1K 5% 1/8W	
	FR231	2001-000429	CARBON RESISTOR	1K 5% 1/8W	
	FR232	2001-000281	CARBON RESISTOR	100 5% 1/8W	
	FR233	2001-000429	CARBON RESISTOR	1K 5% 1/8W	
	FR234	2001-000429	CARBON RESISTOR	1K 5% 1/8W	
	FR235	2001-000429	CARBON RESISTOR	1K 5% 1/8W	
	FR236	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	FR237	2001-000281	CARBON RESISTOR	100 5% 1/8W	
	FR238	2001-000281	CARBON RESISTOR	100 5% 1/8W	
	FR239	2001-000281	CARBON RESISTOR	100 5% 1/8W	
	FR240	2001-000281	CARBON RESISTOR	100 5% 1/8W	
	FR241	2001-000281	CARBON RESISTOR	100 5% 1/8W	
	FR242	2001-000281	CARBON RESISTOR	100 5% 1/8W	
	FR243	2001-000281	CARBON RESISTOR	100 5% 1/8W	
	FR244	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	FR245	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	FR246	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	FR247	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	FR248	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	FR249	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	FR250	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	FR251	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	FR252	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	FR253	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	FR254	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	FR255	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	FR256	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	FR257	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	FR258	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	FR259	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	FR260	2001-000522	CARBON RESISTOR	22K 5% 1/8W	
	FR261	2001-000522	CARBON RESISTOR	22K 5% 1/8W	
	FR262	2001-000522	CARBON RESISTOR	22K 5% 1/8W	
	FR263	2001-000449	CARBON RESISTOR	2.2K 5% 1/8W	
	FR264	2001-000734	CARBON RESISTOR	4.7K 5% 1/8W	
	FR265	2001-000522	CARBON RESISTOR	22K 5% 1/8W	

■ **Electrical parts list (Front board)** **Block No. 02**

⚠	Item	Parts number	Parts name	Remarks	Area
	FR266	2001-000034	CARBON RESISTOR	220 5% 1/4W	
	FR267	2001-000034	CARBON RESISTOR	220 5% 1/4W	
	FR268	2001-000034	CARBON RESISTOR	220 5% 1/4W	
	FR269	2001-000034	CARBON RESISTOR	220 5% 1/4W	
	FR270	2001-000034	CARBON RESISTOR	220 5% 1/4W	
	FR271	2001-000034	CARBON RESISTOR	220 5% 1/4W	
	FR272	2001-000034	CARBON RESISTOR	220 5% 1/4W	
	FR273	2001-000034	CARBON RESISTOR	220 5% 1/4W	
	FR274	2001-000613	CARBON RESISTOR	3.9K 5% 1/8W	
	FR275	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	FR276	2001-000290	CARBON RESISTOR	10K 5% 1/8W	
	FR277	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	FR278	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	FR279	2001-000008	CARBON RESISTOR	15K 5% 1/8W	
	FR280	2001-000660	CARBON RESISTOR	33K 5% 1/8W	
	FR281	2001-000281	CARBON RESISTOR	100 5% 1/8W	
	FR282	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	FR283	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	FR284	2001-001178	CARBON RESISTOR	680 5% 1/2W	
	FR285	2001-001178	CARBON RESISTOR	680 5% 1/2W	
	FR286	2001-001178	CARBON RESISTOR	680 5% 1/2W	
	FR287	2802-001174	RESONATOR	10MHZ 0.5%	
	FR288	2003-000500	OMF RESISTOR	150 5% 1W	
	FR289	3406-001085	SWITCH-ROTARY	DC5V NO CLICK	
	FR290	3406-001084	SWITCH-ROTARY	DC5V 0.5MA CLICK	
	FR291	3406-001084	SWITCH-ROTARY	DC5V 0.5MA CLICK	
	FR292	3404-001048	SWITCH-TACT	DC12V 50MA	
	FR293	3404-001048	SWITCH-TACT	DC12V 50MA	
	FR294	3404-001048	SWITCH-TACT	DC12V 50MA	
	FR295	3404-001048	SWITCH-TACT	DC12V 50MA	
	FR296	3404-001048	SWITCH-TACT	DC12V 50MA	
	FR297	3404-001048	SWITCH-TACT	DC12V 50MA	
	FR298	3404-001048	SWITCH-TACT	DC12V 50MA	
	FR299	3404-001048	SWITCH-TACT	DC12V 50MA	
	FR300	3404-001048	SWITCH-TACT	DC12V 50MA	
	FR301	3404-001048	SWITCH-TACT	DC12V 50MA	
	FR302	3404-001048	SWITCH-TACT	DC12V 50MA	
	FR303	3404-001048	SWITCH-TACT	DC12V 50MA	
	FR304	3404-001048	SWITCH-TACT	DC12V 50MA	
	FR305	3404-001048	SWITCH-TACT	DC12V 50MA	
	FR306	3404-001048	SWITCH-TACT	DC12V 50MA	
	FR307	3404-001048	SWITCH-TACT	DC12V 50MA	
	FR308	3404-001048	SWITCH-TACT	DC12V 50MA	
	FR309	3404-001048	SWITCH-TACT	DC12V 50MA	
	FR310	3404-001048	SWITCH-TACT	DC12V 50MA	
	FR311	3404-001048	SWITCH-TACT	DC12V 50MA	
	FR312	3404-001048	SWITCH-TACT	DC12V 50MA	
	FR313	3404-001048	SWITCH-TACT	DC12V 50MA	
	FR314	3404-001048	SWITCH-TACT	DC12V 50MA	
	FR315	3404-001048	SWITCH-TACT	DC12V 50MA	
	FR316	3404-001048	SWITCH-TACT	DC12V 50MA	
	FR317	3404-001048	SWITCH-TACT	DC12V 50MA	
	FR318	3404-001048	SWITCH-TACT	DC12V 50MA	
	FR319	3404-001048	SWITCH-TACT	DC12V 50MA	
	FR320	3404-001048	SWITCH-TACT	DC12V 50MA	
	FR321	3404-001048	SWITCH-TACT	DC12V 50MA	
	FR322	3404-001048	SWITCH-TACT	DC12V 50MA	
	FR323	0504-001123	DIGI TRANSISTOR	KRC103M 400MW	
	FR324	0504-001123	DIGI TRANSISTOR	KRC103M 400MW	
	FR325	0504-001123	DIGI TRANSISTOR	KRC103M 400MW	
	FR326	0502-001063	TRANSISTOR	KTD2092 25W	
	FR327	0501-002409	TRANSISTOR	KTC945B 625MW	
	FR328	0501-000422	TRANSISTOR	KTA1273	

⚠	Item	Parts number	Parts name	Remarks	Area
	FR329	0501-000422	TRANSISTOR	KTA1273	
	FR330	0501-000422	TRANSISTOR	KTA1273	
	FR331	0501-002375	TRANSISTOR	KTC8050 625MW	
	FR332	0501-002375	TRANSISTOR	KTC8050 625MW	
	FR333	0501-002375	TRANSISTOR	KTC8050 625MW	
	FSR01	2103-000341	VR-SEMI	2K 30% 1/10W	
	HD201	0401-000101	DIODE	1N4148 100V	
	HJACK	3722-000351	JACK-PHONE	11P 3.5PI AG	
	LD101	0601-001739	LED	ROUND RED	
	LD102	0601-001739	LED	ROUND RED	
	LD103	0601-001739	LED	ROUND RED	
	LD104	0601-001739	LED	ROUND RED	
	LD105	0601-001739	LED	ROUND RED	
	LD106	0601-001739	LED	ROUND RED	
	LD107	0601-001739	LED	ROUND RED	
	LD108	0601-001739	LED	ROUND RED	
	LD201	0601-001739	LED	ROUND RED	
	LD202	0601-001739	LED	ROUND RED	
	LD203	0601-001739	LED	ROUND RED	
	LD204	0601-001739	LED	ROUND RED	
	PCB	AH41-00552A	PCB FRONT	MX-GA77	
	UCW01	3708-001577	CONNECTOR	30P 1.25MM	
	UCW02	3708-000492	CONNECTOR	9P 1.25MM	
	UCW03	3708-000492	CONNECTOR	9P 1.25MM	
	UCW04	3708-000454	CONNECTOR	22P 1.25MM ST	
	UCW05	3708-000178	CONNECTOR	16P 1.25MM AN	
	UC001	2201-000783	C.CAPACITOR	100NF +80-20% 50V	
	UC101	2401-002180	E.CAPACITOR	2.2UF 20% 50V	
	UC102	2401-000759	E.CAPACITOR	220NF 20% 50V	
	UC103	2401-001355	E.CAPACITOR	470UF 20% 10V	
	UC104	2401-000240	E.CAPACITOR	100UF 20% 10V	
	UC105	2201-000389	C.CAPACITOR	0.022NF 5% 50V	
	UC106	2201-000389	C.CAPACITOR	0.022NF 5% 50V	
	UC107	2202-000854	C.CAPACITOR	47NF 30% 50V	
	UC108	2202-000854	C.CAPACITOR	47NF 30% 50V	
	UC109	2202-000796	C.CAPACITOR	1NF 10% 50V	
	UC110	2201-000565	C.CAPACITOR	47NF +80-20% 50V	
	UC111	2401-000475	E.CAPACITOR	10UF 20% 50V	
	UC112	2202-000854	C.CAPACITOR	47NF 30% 50V	
	UC113	2401-000475	E.CAPACITOR	10UF 20% 50V	
	UC114	2201-000783	C.CAPACITOR	100NF +80-20% 50V	
	UC115	2401-000240	E.CAPACITOR	100UF 20% 10V	
	UC116	2401-001364	E.CAPACITOR	470UF 20% 16V	
	UC118	2401-000778	E CAPACITOR	220UF 20% 10V	
	UC130	2401-000240	E.CAPACITOR	100UF 20% 10V	
	UC131	2201-000783	C.CAPACITOR	100NF +80-20% 50V	
	UC132	2202-000797	C.CAPACITOR	10NF 30% 16V	
	UC133	2202-000780	C.CAPACITOR	100NF +80-20% 50V	
	UD01	0401-000101	DIODE	1N4148 100V	
	UD03	0401-000101	DIODE	1N4148 100V	
	UD09	0401-000101	DIODE	1N4148 100V	
	UD101	0401-000101	DIODE	1N4148 100V	
	UD102	0401-000101	DIODE	1N4148 100V	
	UD103	0402-000127	DIODE	1N4002 100V 1A	
	UD104	0401-000101	DIODE	1N4148 100V	
	UD105	0402-000127	DIODE	1N4002 100V 1A	
	UD106	0402-000127	DIODE	1N4002 100V 1A	
	UD107	0402-000127	DIODE	1N4002 100V 1A	
	UD108	0402-000127	DIODE	1N4002 100V 1A	
	UD109	0402-000127	DIODE	1N4002 100V 1A	
	UD110	0402-000127	DIODE	1N4002 100V 1A	
	UD25	0401-000101	DIODE	1N4148 100V	
	UIC01	AH11-00095A	MASK ROM	LC876764C-51N5	

■ **Electrical parts list (Front board)** **Block No. 02**

⚠	Item	Parts number	Parts name	Remarks	Area
	UIC02	AC59-60060A	MODULE REMOCON	GP1U281R SHARP	
	UIC03	0904-001621	IC	PT8300 28P	
	UIC04	0904-001621	IC	PT8300 28P	
	UX101	2801-001394	CRYSTAL	32.768KHZ 20PPM	
	VFD	AH07-00098A	VF DISPLAY	BJ904GNK	
	ZD101	0403-000341	ZENER DIODE	UZ3.3B 3.3V	
	ZD102	0403-000341	ZENER DIODE	UZ3.3B 3.3V	
	ZD103	0403-000341	ZENER DIODE	UZ3.3B 3.3V	
	ZD104	0403-000361	ZENER DIODE	UZ6.2BSB 6.2V	

■ **Electrical parts list (Amp. board)** **Block No. 03**

⚠	Item	Parts number	Parts name	Remarks	Area
	ACW1	3708-001167	CONNECTOR	14P 1.25MM ST	
	ACW2	3711-003113	CONNECTOR	9P 1R 2.5MM ST	
	AC10L	2202-000263	C.CAPACITOR	470PF 10% 50V	
	AC10R	2202-000263	C.CAPACITOR	470PF 10% 50V	
	AC11L	2201-000557	C.CAPACITOR	0.47NF 10% 50V	
	AC11R	2201-000557	C.CAPACITOR	0.47NF 10% 50V	
	AC12L	2201-000838	C.CAPACITOR	0.003NF 0.25PF	
	AC12R	2201-000838	C.CAPACITOR	0.003NF 0.25PF	
	AC13L	2301-000375	M.CAPACITOR	100NF 10% TP50V	
	AC13R	2301-000375	M.CAPACITOR	100NF 10% TP50V	
	AC20L	2202-000263	C.CAPACITOR	470PF 10% 50V	
	AC20R	2202-000263	C.CAPACITOR	470PF 10% 50V	
	AC21L	2201-000144	C.CAPACITOR	0.1NF 5% 50V	
	AC21R	2201-000144	C.CAPACITOR	0.1NF 5% 50V	
	AC22L	2201-000838	C.CAPACITOR	0.003NF 0.25PF	
	AC22R	2201-000838	C.CAPACITOR	0.003NF 0.25PF	
	AC25L	2301-000375	M.CAPACITOR	100NF 10% TP50V	
	AC25R	2301-000375	M.CAPACITOR	100NF 10% TP50V	
	AC50L	2201-000381	C.CAPACITOR	22NF +80% 50V	
	AC50R	2201-000381	C.CAPACITOR	22NF +80% 50V	
	AC51L	2201-000381	C.CAPACITOR	22NF +80% 50V	
	AC51R	2201-000381	C.CAPACITOR	22NF +80% 50V	
	AC603	2201-000783	C.CAPACITOR	100NF +80-20% 50V	
	AC604	2201-000783	C.CAPACITOR	100NF +80-20% 50V	
	AC607	2201-000547	C.CAPACITOR	4.7NF 20% 500V	
	AC608	2201-000547	C.CAPACITOR	4.7NF 20% 500V	
	AD100	0401-000101	DIODE	1N4148 100V	
	AD303	0402-000127	DIODE	1N4002 100V 1A	
	AE10L	2401-002180	E.CAPACITOR	2.2UF 20% 50V	
	AE10R	2401-002180	E.CAPACITOR	2.2UF 20% 50V	
	AE100	2401-000357	E.CAPACITOR	100UF 0.2 50V	
	AE101	2401-001164	E.CAPACITOR	33UF 20% 16V	
	AE102	2401-000357	E.CAPACITOR	100UF 0.2 50V	
	AE103	2401-000357	E.CAPACITOR	100UF 0.2 50V	
	AE11L	2401-000438	E.CAPACITOR	10UF 20% 25V	
	AE11R	2401-000438	E.CAPACITOR	10UF 20% 25V	
	AE20L	2401-002180	E.CAPACITOR	2.2UF 20% 50V	
	AE20R	2401-002180	E.CAPACITOR	2.2UF 20% 50V	
	AE200	2401-000230	E.CAPACITOR	100UF 20% 100V	
	AE201	2401-000230	E.CAPACITOR	100UF 20% 100V	
	AE202	2401-000230	E.CAPACITOR	100UF 20% 100V	
	AE203	2401-000357	E.CAPACITOR	100UF 0.2 50V	
	AE204	2401-000357	E.CAPACITOR	100UF 0.2 50V	
	AE205	2401-000230	E.CAPACITOR	100UF 20% 100V	
	AE21L	2401-000438	E.CAPACITOR	10UF 20% 25V	
	AE21R	2401-000438	E.CAPACITOR	10UF 20% 25V	
	AE50L	2401-000459	E.CAPACITOR	10UF 20% 35V	
	AE50R	2401-000459	E.CAPACITOR	10UF 20% 35V	
	AE500	2401-001893	E.CAPACITOR	100UF 20% 16V	
	AE501	2401-001893	E.CAPACITOR	100UF 20% 16V	
	AJW9	2001-000331	CARBON RESISTOR	12K 5% 1/8W	
	AL10L	AH27-90001A	COIL-SPRING	2.2UH SPRING	
	AL10R	AH27-90001A	COIL-SPRING	2.2UH SPRING	
	AL20L	AH27-90001A	COIL-SPRING	2.2UH SPRING	
	AL20R	AH27-90001A	COIL-SPRING	2.2UH SPRING	
	AO10L	0501-002375	TRANSISTOR	KTC8050 625MW	
	AO10R	0501-002375	TRANSISTOR	KTC8050 625MW	
	AO100	0501-002375	TRANSISTOR	KTC8050 625MW	
	AO301	0501-000010	TRANSISTOR	KTC1008 800MW	
	AO50L	0501-002375	TRANSISTOR	KTC8050 625MW	
	AQ50R	0501-002375	TRANSISTOR	KTC8050 625MW	
	AO603	0501-002375	TRANSISTOR	KTC8050 625MW	
	ARL1	3501-001197	RELAY	12VDC 0.54W	

⚠	Item	Parts number	Parts name	Remarks	Area
	AR10L	2001-000591	CARBON RESISTOR	3.3K 5% 1/8W	
	AR10R	2001-000591	CARBON RESISTOR	3.3K 5% 1/8W	
	AR101	2003-000008	OMF RESISTOR	100 5% 1W	
	AR102	2001-000660	CARBON RESISTOR	33K 5% 1/8W	
	AR103	2001-000429	CARBON RESISTOR	1K 5% 1/8W	
	AR104	2001-000258	CARBON RESISTOR	1.8K 5% 1/8W	
	AR11L	2001-000429	CARBON RESISTOR	1K 5% 1/8W	
	AR11R	2001-000429	CARBON RESISTOR	1K 5% 1/8W	
	AR12L	2001-000864	CARBON RESISTOR	56K 5% 1/8W	
	AR12R	2001-000864	CARBON RESISTOR	56K 5% 1/8W	
	AR13L	2001-000472	CARBON RESISTOR	2.7K 5% 1/8W	
	AR13R	2001-000472	CARBON RESISTOR	2.7K 5% 1/8W	
	AR14L	2001-000258	CARBON RESISTOR	1.8K 5% 1/8W	
	AR14R	2001-001055	CARBON RESISTOR	1.8K 5% 1/2W	
	AR15L	2003-000390	OMF RESISTOR	0.27 5% 2W	
	AR15R	2003-000390	OMF RESISTOR	0.27 5% 2W	
	AR16L	2001-000017	CARBON RESISTOR	4.7 5% 1/4W	
	AR16R	2001-000017	CARBON RESISTOR	4.7 5% 1/4W	
	AR17L	2003-000689	OMF RESISTOR	4.7 5% 1W	
	AR17R	2003-000689	OMF RESISTOR	4.7 5% 1W	
	AR18L	2001-000864	CARBON RESISTOR	56K 5% 1/8W	
	AR18R	2001-000864	CARBON RESISTOR	56K 5% 1/8W	
	AR20L	2001-000429	CARBON RESISTOR	1K 5% 1/8W	
	AR20R	2001-000429	CARBON RESISTOR	1K 5% 1/8W	
	AR200	2003-000008	OMF RESISTOR	100 5% 1W	
	AR201	2003-000008	OMF RESISTOR	100 5% 1W	
	AR202	2003-000428	OMF RESISTOR	1.5K 5% 1W	
	AR203	2003-000428	OMF RESISTOR	1.5K 5% 1W	
	AR204	2001-000331	CARBON RESISTOR	12K 5% 1/8W	
	AR21L	2001-000864	CARBON RESISTOR	56K 5% 1/8W	
	AR21R	2001-000864	CARBON RESISTOR	56K 5% 1/8W	
	AR22L	2001-000258	CARBON RESISTOR	1.8K 5% 1/8W	
	AR22R	2001-000258	CARBON RESISTOR	1.8K 5% 1/8W	
	AR23L	2001-000864	CARBON RESISTOR	56K 5% 1/8W	
	AR23R	2001-000864	CARBON RESISTOR	56K 5% 1/8W	
	AR24L	2009-001117	OMF RESISTOR	0.1 5% 5W	
	AR24R	2009-001117	OMF RESISTOR	0.1 5% 5W	
	AR25L	2009-001117	OMF RESISTOR	0.1 5% 5W	
	AR25R	2009-001117	OMF RESISTOR	0.1 5% 5W	
	AR26L	2001-000017	CARBON RESISTOR	4.7 5% 1/4W	
	AR26R	2001-000017	CARBON RESISTOR	4.7 5% 1/4W	
	AR27L	2003-000689	OMF RESISTOR	4.7 5% 1W	
	AR27R	2003-000689	OMF RESISTOR	4.7 5% 1W	
	AR301	2001-000449	CARBON RESISTOR	2.2K 5% 1/8W	
	AR302	2001-000273	CARBON RESISTOR	100K 5% 1/8W	
	AR303	2001-000515	CARBON RESISTOR	220 5% 1/8W	
	AR50L	2001-000864	CARBON RESISTOR	56K 5% 1/8W	
	AR50R	2001-000864	CARBON RESISTOR	56K 5% 1/8W	
	AR500	2001-000281	CARBON RESISTOR	100 5% 1/8W	
	AR501	2001-000281	CARBON RESISTOR	100 5% 1/8W	
	AR51L	2001-001000	CARBON RESISTOR	82K 5% 1/8W	
	AR51R	2001-001000	CARBON RESISTOR	82K 5% 1/8W	
	AR52L	2001-000429	CARBON RESISTOR	1K 5% 1/8W	
	AR52R	2001-000429	CARBON RESISTOR	1K 5% 1/8W	
	AR53L	2001-000522	CARBON RESISTOR	22K 5% 1/8W	
	AR53R	2001-000522	CARBON RESISTOR	22K 5% 1/8W	
	AR54L	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	AR54R	2001-000786	CARBON RESISTOR	47K 5% 1/8W	
	AR55L	2001-000591	CARBON RESISTOR	3.3K 5% 1/8W	
	AR55R	2001-000591	CARBON RESISTOR	3.3K 5% 1/8W	
	AR603	2001-000591	CARBON RESISTOR	3.3K 5% 1/8W	
	AZD20	0403-000382	ZENER DIODE	UZP15B 15V	
	AZD21	0403-000382	ZENER DIODE	UZP15B 15V	

■ **Electrical parts list (Amp. board)** **Block No. 03**

⚠	Item	Parts number	Parts name	Remarks	Area
	FIC01	1201-001955	IC	STK403-070 14P	
	FIC02	1201-000191	IC	BA4558 8P	
	HRFS2	3602-000147	FUSE-CLIP		
	HRFS5	3602-000147	FUSE-CLIP		
	HRFS6	3602-000147	FUSE-CLIP		
	HRFS7	3602-000147	FUSE-CLIP		
	HRFS8	3602-000147	FUSE-CLIP		
	PCB	AH41-00554A	PCB-AMP	247 163 1.6T	
	PCW1	3711-000588	CONNECTOR	10P 1R 2.5MM ST	
	PW101	3711-000190	CONNECTOR	2P 1R 7.92MM ST	
⚠	RFS2	3601-001248	FUSE	125V 5A	
⚠	RFS5	3601-001285	FUSE	125V 6.3A	
⚠	RFS6	3601-001285	FUSE	125V 6.3A	
⚠	RFS7	3601-001201	FUSE	125V 8A	
⚠	RFS8	3601-001201	FUSE	125V 8A	
	SPK	3716-001164	TERMINAL-BLOCK	SOLDER 8P 60V7A	
	WIC01	1201-001844	IC	STK412-020 18P	

■ **Electrical parts list (CD board)** **Block No. 04**

⚠	Item	Parts number	Parts name	Remarks	Area
	CW101	3708-001252	CONNECTOR	16P 1MM ST	
	CW102	AH39-20561P	LEAD CONNECTOR	5295 6P 150MM	
	CW103	3708-001131	CONNECTOR	5P 1.25MM ST	
	CW104	3711-003379	CONNECTOR	3P 1R 2.5MM ST	
	CW105	3708-001438	CONNECTOR	22P 1.25MM AN	
	CW106	AH39-00060A	LEAD CONNECTOR	51015-08 004-08	
	CW107	3711-000906	CONNECTOR	3P 1R 2MM AN SN	
	C101	2401-000240	E.CAPACITOR	100UF 20% 10V	
	C102	2203-001537	CHIP CAPACITOR	1NF 10% 50V	
	C103	2203-001551	CHIP CAPACITOR	1.5NF 10% 50V	
	C104	2203-001551	CHIP CAPACITOR	1.5NF 10% 50V	
	C105	2203-000609	CHIP CAPACITOR	22NF 10% 50V	
	C106	2203-001137	CHIP CAPACITOR	68NF +80-20% 50V	
	C107	2401-000240	E.CAPACITOR	100UF 20% 10V	
	C108	2401-000240	E.CAPACITOR	100UF 20% 10V	
	C111	2203-000892	CHIP CAPACITOR	4.7NF 10% 50V	
	C112	2203-000892	CHIP CAPACITOR	4.7NF 10% 50V	
	C113	2202-000780	C.CAPACITOR	100NF +80-20% 50V	
	C114	2401-001625	E.CAPACITOR	6.8UF 20% 50V	
	C115	2203-000203	CHIP CAPACITOR	100NF 10% 16V	
	C116	2203-000203	CHIP CAPACITOR	100NF 10% 16V	
	C117	2203-001537	CHIP CAPACITOR	1NF 10% 50V	
	C118	2203-000203	CHIP CAPACITOR	100NF 10% 16V	
	C119	2203-000802	CHIP CAPACITOR	33NF 10% 50V	
	C120	2401-001968	E.CAPACITOR	470NF 20% 50V	
	C121	2203-000260	CHIP CAPACITOR	10NF 10% 50V	
	C122	2203-001137	CHIP CAPACITOR	68NF +80-20% 50V	
	C123	2401-000438	E.CAPACITOR	10UF 20% 25V	
	C124	2203-000203	CHIP CAPACITOR	100NF 10% 16V	
	C124A	2203-001064	CHIP CAPACITOR	56NF 10% 50V	
	C125	2203-000840	CHIP CAPACITOR	0.39NF 5% 50V	
	C126	2203-000495	CHIP CAPACITOR	2.2NF 10% 50V	
	C127	2203-000595	CHIP CAPACITOR	0.22NF 5% 50V	
	C128	2203-000802	CHIP CAPACITOR	33NF 10% 50V	
	C129	2203-000203	CHIP CAPACITOR	100NF 10% 16V	
	C130	2203-000203	CHIP CAPACITOR	100NF 10% 16V	
	C131	2203-000203	CHIP CAPACITOR	100NF 10% 16V	
	C132	2203-000203	CHIP CAPACITOR	100NF 10% 16V	
	C133	2401-000240	E.CAPACITOR	100UF 20% 10V	
	C134	2203-000260	CHIP CAPACITOR	10NF 10% 50V	
	C135	2401-001968	E.CAPACITOR	470NF 20% 50V	
	C201	2203-001619	CHIP CAPACITOR	0.027NF 5% 50V	
	C202	2203-001619	CHIP CAPACITOR	0.027NF 5% 50V	
	C203	2203-001223	CHIP CAPACITOR	0.82NF 10% 50V	
	C204	2203-000203	CHIP CAPACITOR	100NF 10% 16V	
	C205	2203-000203	CHIP CAPACITOR	100NF 10% 16V	
	C207	2203-000260	CHIP CAPACITOR	10NF 10% 50V	
	C208	2203-000858	CHIP CAPACITOR	0.039NF 5% 50V	
	C209	2203-000260	CHIP CAPACITOR	10NF 10% 50V	
	C211	2203-000203	CHIP CAPACITOR	100NF 10% 16V	
	C212	2401-000240	E.CAPACITOR	100UF 20% 10V	
	C213	2203-000260	CHIP CAPACITOR	10NF 10% 50V	
	C214	2203-000260	CHIP CAPACITOR	10NF 10% 50V	
	C215	2401-000240	E.CAPACITOR	100UF 20% 10V	
	C216	2203-000260	CHIP CAPACITOR	10NF 10% 50V	
	C217	2401-000240	E.CAPACITOR	100UF 20% 10V	
	C218	2203-000260	CHIP CAPACITOR	10NF 10% 50V	
	C301	2401-001102	E.CAPACITOR	330UF 20% 16V	
	C302	2401-000240	E.CAPACITOR	100UF 20% 10V	
	C303	2401-000240	E.CAPACITOR	100UF 20% 10V	
	C304	2203-000260	CHIP CAPACITOR	10NF 10% 50V	
	C305	2203-000260	CHIP CAPACITOR	10NF 10% 50V	
	C401	2203-000260	CHIP CAPACITOR	10NF 10% 50V	

⚠	Item	Parts number	Parts name	Remarks	Area
	C402	2203-000260	CHIP CAPACITOR	10NF 10% 50V	
	C403	2203-000203	CHIP CAPACITOR	100NF 10% 16V	
	C501L	2401-001954	E.CAPACITOR	4.7MF 20% 50V	
	C501R	2401-001954	E.CAPACITOR	4.7MF 20% 50V	
	C502L	2203-001537	CHIP CAPACITOR	1NF 10% 50V	
	C502R	2203-001537	CHIP CAPACITOR	1NF 10% 50V	
	C601	2203-000260	CHIP CAPACITOR	10NF 10% 50V	
	C602	2203-000260	CHIP CAPACITOR	10NF 10% 50V	
	C603	2401-000240	E.CAPACITOR	100UF 20% 10V	
	C603A	2202-000780	C.CAPACITOR	100NF +80-20% 50V	
	C604	2203-000203	CHIP CAPACITOR	100NF 10% 16V	
	C605	2203-001223	CHIP CAPACITOR	0.82NF 10% 50V	
	C606	2203-000203	CHIP CAPACITOR	100NF 10% 16V	
	C607	2203-000203	CHIP CAPACITOR	100NF 10% 16V	
	C608	2203-001223	CHIP CAPACITOR	0.82NF 10% 50V	
	C610	2203-000203	CHIP CAPACITOR	100NF 10% 16V	
	C611	2203-000203	CHIP CAPACITOR	100NF 10% 16V	
	C612	2203-000203	CHIP CAPACITOR	100NF 10% 16V	
	C801	2401-002183	E.CAPACITOR	220MF 20% 16V	
	C803	2203-000787	CHIP CAPACITOR	0.33NF 5% 50V	
	C804	2202-000243	C.CAPACITOR	33PF 5% 50V SL	
	C805	2202-000243	C.CAPACITOR	33PF 5% 50V SL	
	C806	2202-000243	C.CAPACITOR	33PF 5% 50V SL	
	DR1	2007-000872	CHIP RESISTOR	4.7K 5% 1/10W	
	DR2	2007-000872	CHIP RESISTOR	4.7K 5% 1/10W	
	D301	0402-000151	DIODE	1N5392 100V 1.5A	
	IC101	1204-001799	IC	KB9226 48P	
	IC201	0904-001524	IC	5L9290 OFP 48P	
	IC301	1003-000179	IC	KA9258D 28P	
	IC401	1003-001162	IC	KA3082 10PIN	
	IC402	1003-001162	IC	KA3082 10PIN	
	IC601	1204-001885	IC	S5L9276 64P	
	IC602	1105-001339	IC	M11L1644 24P	
	IC801	AC14-12001G	IC	KA78L05	
	PCB	AH41-00282B	PCB-CD	G3HI-3CD	
	Q101	0501-000314	TRANSISTOR	KSA812 150MW	
	Q301	0501-000610	TRANSISTOR	KSA928A-Y	
	Q302	0501-000010	TRANSISTOR	KSC1008 800MW	
	R101	2007-001039	CHIP RESISTOR	56K 5% 1/10W	
	R102	2007-001039	CHIP RESISTOR	56K 5% 1/10W	
	R103	2007-001039	CHIP RESISTOR	56K 5% 1/10W	
	R104	2007-001039	CHIP RESISTOR	56K 5% 1/10W	
	R105	2007-000409	CHIP RESISTOR	15K 5% 1/10W	
	R105	2007-001208	CHIP RESISTOR	82K 5% 1/10W	
	R106	2007-001208	CHIP RESISTOR	82K 5% 1/10W	
	R107	2007-001216	CHIP RESISTOR	82 5% 1/10W	
	R108	2007-000308	CHIP RESISTOR	10 5% 1/10W	
	R110	2007-000409	CHIP RESISTOR	15K 5% 1/10W	
	R112	2007-001195	CHIP RESISTOR	820K 5% 1/10W	
	R113	2007-000444	CHIP RESISTOR	180K 5% 1/10W	
	R114	2007-000001	CHIP RESISTOR	68K 5% 1/10W	
	R115	2007-001177	CHIP RESISTOR	8.2K 5% 1/10W	
	R116	2007-000546	CHIP RESISTOR	20K 5% 1/10W	
	R117	2001-000331	CARBON RESISTOR	12K 5% 1/8W	
	R118	2007-000477	CHIP RESISTOR	1M 5% 1/10W	
	R119	2007-001208	CHIP RESISTOR	82K 5% 1/10W	
	R120	2007-001039	CHIP RESISTOR	56K 5% 1/10W	
	R121	2007-000409	CHIP RESISTOR	15K 5% 1/10W	
	R123	2007-000941	CHIP RESISTOR	47K 5% 1/10W	
	R124	2007-000338	CHIP RESISTOR	120K 5% 1/10W	
	R125	2007-000338	CHIP RESISTOR	120K 5% 1/10W	
	R126	2007-001039	CHIP RESISTOR	56K 5% 1/10W	
	R127	2007-001208	CHIP RESISTOR	82K 5% 1/10W	

■ **Electrical parts list (CD board)** **Block No. 04**

⚠	Item	Parts number	Parts name	Remarks	Area
	R128	2007-000653	CHIP RESISTOR	27K 5% 1/10W	
	R129	2007-000941	CHIP RESISTOR	47K 5% 1/10W	
	R132	2007-000300	CHIP RESISTOR	10K 5% 1/10W	
	R133	2007-000300	CHIP RESISTOR	10K 5% 1/10W	
	R201	2007-000290	CHIP RESISTOR	100 5% 1/10W	
	R202	2007-000477	CHIP RESISTOR	1M 5% 1/10W	
	R203	2007-000290	CHIP RESISTOR	100 5% 1/10W	
	R204	2007-000468	CHIP RESISTOR	1K 5% 1/10W	
	R205	2007-000468	CHIP RESISTOR	1K 5% 1/10W	
	R206	2007-000468	CHIP RESISTOR	1K 5% 1/10W	
	R207	2007-000468	CHIP RESISTOR	1K 5% 1/10W	
	R208	2007-000468	CHIP RESISTOR	1K 5% 1/10W	
	R209	2007-000468	CHIP RESISTOR	1K 5% 1/10W	
	R210	2007-000572	CHIP RESISTOR	220 5% 1/10W	
	R211	2001-000429	CARBON RESISTOR	1K 5% 1/8W	
	R212	2001-000429	CARBON RESISTOR	1K 5% 1/8W	
	R213	2007-000468	CHIP RESISTOR	1K 5% 1/10W	
	R301	2008-000140	FUSIBLE RESISTOR	2.2 5% 1/2W	
	R302	2001-001006	CARBON RESISTOR	82 5% 1/8W	
	R501L	2007-000282	CHIP RESISTOR	100K 5% 1/10W	
	R501R	2007-000282	CHIP RESISTOR	100K 5% 1/10W	
	R502L	2007-000290	CHIP RESISTOR	100 5% 1/10W	
	R502R	2007-000290	CHIP RESISTOR	100 5% 1/10W	
	R601	2007-000468	CHIP RESISTOR	1K 5% 1/10W	
	R602	2007-000468	CHIP RESISTOR	1K 5% 1/10W	
	R603	2007-000468	CHIP RESISTOR	1K 5% 1/10W	
	R604	2001-000515	CARBON RESISTOR	220 5% 1/8W	
	R605	2001-000429	CARBON RESISTOR	1K 5% 1/8W	
	R801	2007-000468	CHIP RESISTOR	1K 5% 1/10W	
	R802	2007-000468	CHIP RESISTOR	1K 5% 1/10W	
	R803	2001-000429	CARBON RESISTOR	1K 5% 1/8W	
	R804	2007-000468	CHIP RESISTOR	1K 5% 1/10W	
	R805	2007-000468	CHIP RESISTOR	1K 5% 1/10W	
	R806	2007-000468	CHIP RESISTOR	1K 5% 1/10W	
	R807	2007-000872	CHIP RESISTOR	4.7K 5% 1/10W	
	R808	2007-000872	CHIP RESISTOR	4.7K 5% 1/10W	
	R809	2007-000872	CHIP RESISTOR	4.7K 5% 1/10W	
	R809	2007-000300	CHIP RESISTOR	10K 5% 1/10W	
	R810	2001-000362	CARBON RESISTOR	150 5% 1/8W	
	R811	2007-000468	CHIP RESISTOR	1K 5% 1/10W	
	R812	2007-000468	CHIP RESISTOR	1K 5% 1/10W	
	R813	2007-000941	CHIP RESISTOR	47K 5% 1/10W	
	X201	2802-000211	RESONATOR	16.93MHZ 0.5%	
	ZD301	0403-000344	ZENER DIODE	UZ3.9B 3.9V	
	ZD401	0403-000361	ZENER DIODE	UZ6.2BSB 6.2V	
	ZD402	0403-000352	ZENER DIODE	UZ4.7BM 4.7V	

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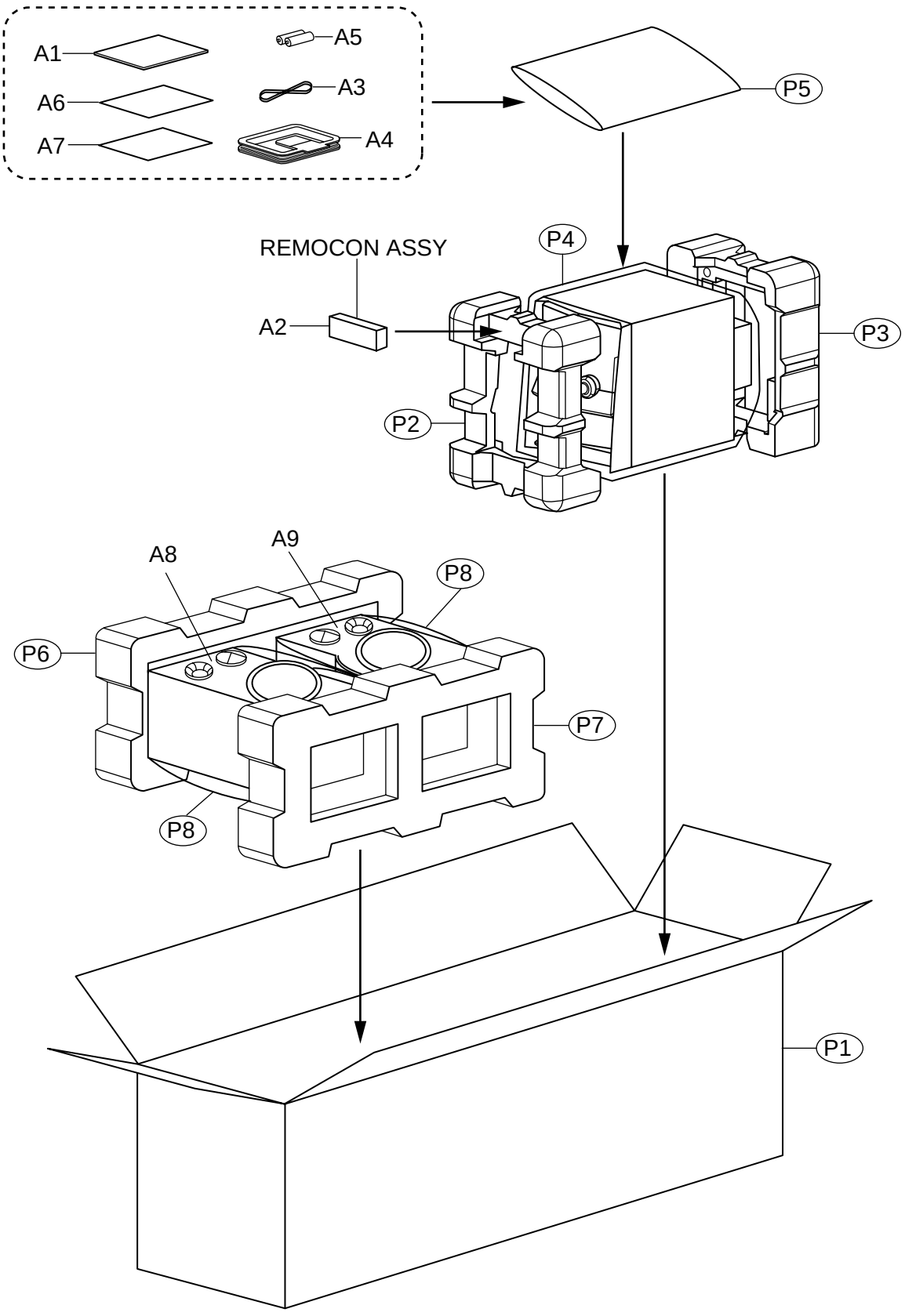
Packing materials and accessories parts list

Block No. M 3 M M
Block No. M 5 M M



■ Parts list (Packing)

Block No. M3MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	P 1	AH69-00906B	MASTER CARTON	1		J
		AH69-00906C	MASTER CARTON	1		C
	P 2	AH69-00867B	CUSHION L	1	FRONT	
	P 3	AH69-00868B	CUSHION R	1	REAR	
	P 4	AH69-30012T	PORY BAG	1	SET	
	P 5	AH69-00525A	PORY BAG	1	INSTRUCTIONS	
	P 6	AH81-00959Q	CUSHION TOP	1	SPEAKER BOX	
	P 7	AH81-00929R	CUSHION BOTTOM	1	SPEAKER BOX	
	P 8	AH81-00631U	PORY BAG	2	SPEAKER BOX	

■ Parts list (Accessories)

Block No. M5MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	A 1	AH68-01227A	INSTRUCTIONS	1	LVT1010-001A	J
		AH68-01227C	INSTRUCTIONS	1	LVT1010-002A	C
	A 2	AH59-01163B	REMOCON-ASSY	1		
	A 3	AH38-10001A	FM ANTENNA	1		
	A 4	AH42-20001P	AM ANTENNA	1		
	A 5	----------	BATTERY	2		
	A 6	AH68-00415J	IMPORTANT CARD	1		
	A 7	AH68-00416A	SAFETY CARD	1		
	A 8	MXGA77-SPBOX-R	SPEAKER BOX R	1		
	A 9	MXGA77-SPBOX-L	SPEAKER BOX L	1		